



Australian Bureau of Statistics

1301.0 - Year Book Australia, 1988

ARCHIVED ISSUE Released at 11:30 AM (CANBERRA TIME) 01/01/1988

AUSTRALIAN STATISTICIANS AND THE DEVELOPMENT OF OFFICIAL STATISTICS

Contributed by Colin Forster and Cameron Hazlehurst.

PART I: IMPERIAL STATISTICS 1788 - 1855

PART II: COLONIAL STATISTICS 1855-1900

PART III: STATISTICS FOR THE NEW NATION

PART IV: THE PATH TO UNIFICATION

PART I: IMPERIAL STATISTICS 1788 - 1855

THE EARLY YEARS 1788-1822

Arthur Phillip was the first Australian statistician. In 1787 he was appointed Captain-General and Governor-in-Chief of New South Wales and its dependencies with the widest powers: powers necessary to transport a fleet of convicts and establish and maintain a settlement far beyond immediate supervision from London. With this freedom of action however went accountability. The settlement was seen as an economic means of disposing of felons, but only time and comprehensive accounting records would show whether the experiment was a success. More than economics was involved, with the British authorities requiring reports on social and legal matters. Accountability is implicit throughout the Instructions given to Phillip in April 1787, and this involved the collecting and collating of information in numerical form. Some tasks were specified. He was required to issue tools and utensils and

use every proper degree of economy, and be careful that the Commissary so transmit an account of the issues from time to time to the Commissioners of our Treasury, to enable them to judge of the propriety or expediency of granting further supplies. The clothing of the convicts and the provisions issued to them, and the civil and military establishments, must be accounted for in the same manner. ¹.

To the appropriate Secretary of State had to go 'an account of the numbers inhabiting the neighbourhood of the intended settlement'.² Land grants could be made to emancipated convicts, in which case 'you will cause copies of such grants as may be passed to be preserved, and make a regular return of the said grants'³, not only to Treasury but also to the Committee for Trade and Plantations.

The type of statistical material produced by Phillip can be seen in his early reports on 9 July 1788 in his fourth dispatch to Lord Sydney at the Home Office, Phillip included, along with an account of population numbers, tables relating to livestock in the settlement, to a general return on the four companies of marines and to a return on the sick and the dead since the landing.⁴ The following day, reporting to the Admiralty, he referred to the inclusion with his dispatch of 'the weekly accounts'.⁵ On

28 September a Commissariat return was sent to the Home Office on the state of stores and the number of persons being victualled at Sydney and Norfolk Island.⁶ A detailed return of the whole population was included in Phillip's dispatch dated 25 July 1790; it was signed by the Commissary and numbered the population in categories of men, women and children classified as military, civil or convict.⁷ Phillip's first return with details of land grants was dated 5 November 1791; it listed the names of 87 settlers who had been granted land in New South Wales and Norfolk Island with details of their status, marital situation, date of settling, size and location of grant and area in actual cultivation.⁸ The following year on 16 October the return was able to indicate what crops were being grown on the cleared ground.⁹

On Phillip's departure in December 1792, Lieutenant-Governor Grose administered the settlement, and he was informed on 15 November 1793 that his duties included 'a yearly return... signed by the Governor of the settlement... of all births and deaths within the settlement'.¹⁰ Grose was also reminded of the detail reacquired in the Commissariat returns:

A like return should be transmitted of all provisions, clothing, and stores, annually received for the use of the settlement . . . [and] returns of their distribution, under separate heads, of clothing, stores, and provisions. The distribution of the provisions should appear in a victualling-book, which should be kept by the Commissary, in like manner as is usual with pursers in the Navy, bearing the persons on separate lists, where their rations differ, the title of each list expressing the ration; and the ready-made clothing should be distributed in the manner above mentioned; and a regular account, both as to the time and the numbers, mentioning their names to whom it is distributed, should appear in a yearly return of clothing.¹¹

In the years that followed, a flow of statistics was sent from New South Wales to Britain, while for their part the British colonial authorities, with varying success, ordered more types of information, more accurate information and more regular information. The Governors not only had the duty of reporting on the state of the colony, they had actually to administer the colony: a colony established as a large gaol in a wilderness, which grew rapidly and in which free settlement soon became important. For their own use the Governors required detailed information, and the very nature of the colony, the fact that it was under firm government control, meant that from its beginning the statistics created were basically official statistics. Four areas of statistics are now considered.

Population

A gaol requires the careful counting and identification of prisoners. This requirement was reinforced in New South Wales because prisoners were not only the workforce of the settlement but had to be supplied from the public stores, which themselves were wholly imported and were at critically low levels in the first years of settlement. Phillip's first report on population was in his dispatch of 9 July 1788:

Of the convicts, 36 men and 4 women died on the passage, 20 men and 8 women since landing - eleven men and one woman absconded; four have been executed, and three killed by the natives. The number of convicts now employed in erecting the necessary buildings and cultivating the lands only amounts to 320 - and the whole number of people victualled amounts to 966 - consequently we have only the labour of a part to provide for the whole.¹²

Convicts then were constantly being counted and often as part of the total population. These counts took the form of 'musters', actual assemblies of the population, which were commonly supervised by the Governor or his deputy. Records of population musters exist for almost every year between 1790 and 1825. The method of mustering took many forms and was clearly much easier to organise when the population was small, wholly dependent on government stores and the area of settlement was limited. An early form of general muster is suggested by an order of

23 September 1795:

A General Muster will be held on Saturday next, the 26th instant, at Sydney; on Thursday, the 1st of October, at Parramatta and Toongabbe; and on Saturday, the 3rd of October, at the settlement at the Hawkesbury, - at which places the Commissary will attend for the purpose of obtaining a correct account of the numbers and distribution of all persons (the military excepted) in the different aforementioned settlements, whether victualled or not victualled from the public stores.¹³

With the order went the threat that those who failed to attend would 'be either confined to the cells, put to hard labour, or corporally punished'.¹⁴

For administrative convenience this muster took place over several days, but Governor Hunter ordered a simultaneous muster because the previous method

. . . gave good time for imposters and other villains to practise their tricks and ingenuity by answering the first call at Sydney, where they have received provisions and slops as one resident in that district; on the day of call at Parramatta they have appeared there, have been entered in the muster list of that place, and have been again victualled and sometimes clothed; the attempt has sometimes been made (and not always unsuccessfully) at the third muster.¹⁵

And in December 1796 in order to protect property when the population assembled at a muster, Hunter found it necessary to order that servants and labourers assemble one day and settlers the next.¹⁶ In 1801 Governor King summed up what he thought an unsatisfactory situation:

I have used every means to ascertain the numbers of every description of persons in the colony, which has not been done without much difficulty, owing to the scattered state they were in, the numbers who had obtained false certificates of their times being expired, and their being no general list whatever of the inhabitants . . .¹⁷

By 1809 the muster extended over a fortnight with different classes of people assigned different muster days.¹⁸ By 1812 the period of muster had extended to almost one month¹⁹, and in 1819 it took from 27 September to 12 November²⁰. In 1820 expansion of settlement necessitated new methods: three new muster centres were added to the existing four and supervision was conducted by magistrates rather than the Governor and the Deputy Commissary-General.²¹ In 1823 there were sixteen muster-stations²² and 1825, twenty.²³ The accuracy of the picture of the population presented by the musters must vary between individual years, but in general they appear to be in significant error. The change to the counting by magistrates in 1820 was a failure. Governor Macquarie found the returns so inaccurate that he felt unable to send them to England²⁴, and even a second attempt by the magistrates was no more satisfactory.²⁵ As a result, in 1821, Macquarie reverted to his method of personal supervision of the muster. Not that his method would guarantee satisfactory results: In 1823 and 1825 the official Population figures of 29,692 and 38,217 were made up partly from those who actually attended the musters, but also from an estimated 4,853 in 1823 and 5,203 in 1825 who were 'unaccounted for'.²⁶

The Commissariat

The key economic institution in the settlement was the Commissariat. It was established to provide the supply of stores for the penal colony. From the beginning the task was a demanding one. In 1796 Commissary Palmer complained that he had been required to keep accounts in the same manner as the 'purser of a man-of-war',

. . . but when the numbers to be accounted for are from three to four thousand persons, the books then required to be kept become very extensive, particularly those of the slop and victualling accounts.²⁷

Moreover, he went on, his duties were more than those of a purser since he was

obliged to keep a particular account of all kinds of stores received and expended in the colony, and to transmit accounts of all ordnance, naval, victualling, and hospital stores, that may be received and issued to the different Boards . . .²⁸

And he foresaw great difficulties as both the numbers in the colony and the area of settlement expanded.

Already, by 1796, the Commissariat had expanded beyond its original purpose of a store of issue. It developed as the main market for local produce and the main retail outlet for supplies. Goods were sometimes bartered, but were more often sold on cash or credit. It was the most important source of foreign currency for the colony. It has been called 'Australia's first bank'.²⁹ The activities of the Commissariat were under the control of the Governors until 1813. Concern over misconduct in its administration then led to it being made directly responsible to the office of the Commissary General in London, itself a sub-department of the Treasury.

The activities of this institution were central to the functioning of the colony's economy for at least the first thirty or forty years. Its accounts and reports are the main source of economic statistics. These records would arise naturally in the circumstances of the operation of the business, but their extent, form and regularity of appearance were strongly influenced by a stream of complaints and instructions from London. The early Governors' dispatches regularly included such information as the stock of stores, rate of consumption, numbers and quantity of rations of those victualled at the store. The quarterly returns by the Commissariat of its accounts to the Treasury for auditing have been preserved.

Vital Statistics

Governors were required to report annually on the numbers of births and deaths. these reports, however, although headed births and deaths, record only some baptisms and burials. The position was summed up by the surgeon responsible for the returns in 1801:

The state of births and deaths in this report is accurate as far as comes within our knowledge, but people die and children are born without our being made acquainted herewith.³⁰

The various authorities debuted to record vital statistics - clergy, surgeons and magistrates - don't appear to have taken their duties very seriously, and difficulties became more pronounced as settlement spread. Moreover, the absence of Roman Catholic clergy until 1820 (except for 1803-08) seems to have meant the virtual exclusion of members of this sect from the returns. Indeed official figures for Roman Catholics do not appear until 1831.

Agricultural Statistics

Providing statistics of stock owned by the government in the early years of settlement was relatively straightforward. As agriculture expanded and increasingly was conducted in private hands, the collection of accurate statistics became much more difficult. One early method required military officers to put in a return on their own agricultural activities and constables to collect the information from settlers.³¹ Later, and more systematically, the collection of agricultural information was combined with the population musters. For example, a return in 1800 based on musters of 18 July and 15 August gave numbers for sheep, cattle, horses, goats, hogs, acres in wheat and acres of maize to be planted, according to ownership by government or individuals.³²

This discussion of types of statistics transmitted to Britain is not meant to be exhaustive. Returns on other areas such as customs revenue and land grants were also made. It is obvious that the reliability of the statistics varied greatly, as did the punctuality and regularity of their appearance; for instance, in 1821 the Colonial Office drew Macquarie's attention to the fact that there had been no land grant returns since 1812.³³ All these statistical reports may be regarded as official, but the relationship between the colonial and the British authorities meant that they were of the nature of documents reporting and accounting within government departments. Although the contents of some would find occasional publication in a British parliamentary paper, they were never published on any regular basis.

There has been no discussion so far of the colony in Van Diemen's Land. Obviously it has its own story, but in terms of the nature, problems and significance of official statistics, it is broadly similar to that of New South Wales. After 1822 and to 1855 this type of statistical reporting by New South Wales and Van Diemen's Land continued, and they were joined by other Australian colonies, Western Australia, South Australia and Victoria, as they were established. Although these returns continued, their importance in representing Australian official statistics was greatly diminished when they were largely incorporated in a single, annual volume.

THE BLUE BOOKS 1822-1855

The mainstream of official statistics in Australia begins with the **Blue Books**, the annual statistical returns of the Australian colonies to the Colonial Office. When self-government was obtained in 1855, the **Blue Books** were transformed into the **Statistical Registers** of the second half of the nineteenth century. **Blue Books** were not limited to Australia: all British colonies had to make the same type of statistical returns. Their emergence reflected the new imperial situation following the loss of the American colonies and the end of the Napoleonic wars.

In 1788 colonial affairs centred in the hands of the Home Office, but were administered simply as part of the general business of that department. Moreover, other departments such as Treasury, Admiralty, Ordnance and Customs had their own officials in the colonies who were responsible directly to them. A significant change took place in 1801 when colonial administration was turned over to the recently-created office of Secretary of State for War. War precluded much attention being given to the colonies, until the appointment of Lord Bathurst in 1812 heralded a sustained period of reorganisation. Continuity in the office was maintained, since Bathurst retained his post until 1827 and his Under-Secretary, Goulburn, stayed with him until 1822. Their achievements have been highly rated:

[They] unquestionably created a Colonial Office where none existed before, and in so doing they performed a task which was essential if the British Empire was to survive. To build a central machinery which could furnish information for the ministry and parliament on colonial affairs was the first step toward the reorganisation of the empire in the nineteenth century.³⁴

The continuing war probably delayed Bathurst from giving his full attention to the colonies until 1815, when the long-run overhaul of colonial administration began. Legal, economic, financial, social, military matters, all needed revision. Central to change and to efficient administration was the systematic gathering of information. Initially, the **Blue Books** were seen by Bathurst as supplying the financial data.

He first introduced the preparation of what were called the 'Blue Books', which name is now even adopted in Parliamentary documents; and when in my evidence before the Canada Committee in 1828 I stated my opinion 'that it was expedient that the most unqualified publicity should be given both in the Colonies and the mother country to all pecuniary accounts, appropriations and matters of finance,' I only stated the opinion which had led to the adoption of this Blue Book system, which system as far as I have been able to ascertain, has been approved by the most rigid economists.³⁵

The origin of the term 'Blue Book' appears to lie simply in the colour of the report cover. It was sufficiently institutionalised by 1829, that when, in a dispatch Governor Darling referred to the 'Crown Book'³⁶ Under-Secretary Hay replied that this had been noticed by the Secretary of State, and that 'I am directed to acquaint you that the original name given to this compilation, that of the "Blue Book", is preferred'.³⁷ An early reference to the term was in 1817 when returns were made to a House of Commons Select Committee on Finances. The Committee had requested information from the responsible government departments concerning office holders in the colonies: office, possession or reversion, salary, name and date of appointment. Some departments were unable to provide this information in full. In its reply the Colonial Office named only fourteen officers in New South Wales (headed by the Governor) and four in Van Diemen's Land.³⁸ It was probably this request from the Finance Committee which brought home to the Colonial Office its lack of information. In the same month it dispatched to the colonies forms which were to be filled in by all office-holders and collected by the Governor.³⁹

The annual system of reporting by **Blue Book** was initiated with its dispatch from London in March 1822 to the Governors of the colonies. It was accompanied by a circular from Bathurst which began with a formal explanation:

I have had occasion to remark that a want of a regular form of transmission of detailed information respecting the financial resources of His Majesty's Colonies, and the several branches of their expenditure, is a deficiency which creates much inconvenience to the public Service.⁴⁰

Bathurst went on to list the five main divisions of the book and to discuss the sort of information required. The topics reflected British preoccupation with the cost of the colonies: 'Abstract of the Nett Revenue and Expenditure'; 'Schedule of Taxes, Duties, etc.'; 'Military Expenditure'; 'Establishment'; and 'Schedule of the Fees, etc.' The Governors were informed that in future the books should be returned 'as soon as possible to this department after the close of every year'. Further, more general, information was required in a circular of April 1823, relating to 'Population'; 'Exports and Imports'; and 'Currency'.⁴¹ In the event, the first **Blue Book** for New South Wales was completed for the year 1822.

The table of contents of the first **Blue Book** consisted of the eight subjects listed above and at the bottom of this page was printed 'This Book and the Duplicate of it must be returned to the Colonial Office'. The inside pages had printed headings indicating in more detail what contents were required; the entries made in New South Wales were entirely hand-written. In length it was made up of 77 folios, not all of them with entries, with almost a half being given over to 'Establishment'; details were there required relating to each office holder, beginning with the Governor. The importance of the West Indian Colonies at this time is suggested by the population section which has headings referring to 'Free Blacks' and 'Slaves'. In New South Wales these pages were ignored and there are later entries for the civil and military populations.

The birth of the **Blue Book** in New South Wales was difficult. Governor Brisbane was unable to complete a return for 1821, and in May 1823 was sent a reproof from the Colonial Office urging him to '**lose no time**' sending a return for 1822⁴², for which fresh forms were enclosed. The timing was already late for 1822, because, as the Colonial Office later admitted, 'unfortunately, in consequence of accident, [they] were not sent to you as soon as to the other Colonies'.⁴³ In January 1824 Brisbane could reply only with a summary statement of finance, pleading that this 'altogether new' form of presentation of information was 'attended with so much labor'.⁴⁴

He was not able to dispatch the 1822 **Blue Book** until March 1825. He believed it 'to be as accurate as the time and the nature of so complicated an undertaking will admit of, for a first

attempt'.⁴⁵ For its part, the Colonial Office had continued to be laggardly: it did not send the 1823 Book to New South Wales until April 1824.⁴⁶

There was no Book from New South Wales for 1824. After 1824 this annual report was always presented, but delays, recriminations and explanations continued. In June 1828 the Secretary of State wrote firmly to Governor Darling:

It is impossible for me to imagine why so little care seems hitherto to have been taken to send home the Blue Book regularly and in due time . . . I anxiously hope that you will not render it necessary for me to remind you again of His Majesty's Pleasure upon this subject.⁴⁷

He went on to order that the New South Wales Colonial Secretary should take responsibility for the **Blue Book**. The Colonial Secretary's problem, apart from overwork, was that of obtaining satisfactory accounts on time from the various officers responsible. For the past three years, although the **Blue Book** was compiled in his office, 'I did not consider that I was answerable for the financial Statements which it contained, any further than as to the correctness of the transcription'.⁴⁸ Now that he was to be held personally responsible for their 'correctness', an immense amount of work was involved to 'put them into an intelligible form'. As a result, and because the 1828 **Blue Book** had to be printed, he could send only one incomplete copy in July 1829.⁴⁹

The complete book was dispatched ultimately in October, and on the last page the Colonial Secretary cautiously wrote:

I certify that this Book has been compiled under my immediate inspection; and that the several Statements and returns contained in it are as accurate as the means in my power have enabled me to make them.⁵⁰

Delays continued, the 1829 **Blue Book** was not sent from New South Wales until February 1831. Again the Colonial Office had been late in sending the blank Book; again there was pressure of work on the Colonial Secretary; but on this occasion he also pointed out:

that the printed Books, which are sent to us to be filled up, are, in most of the Forms, not applicable to this Colony, and that our Returns must therefore be less perfect than they otherwise would have been.⁵¹

1833 brought copies of two circulars dispatched on the same date from the Colonial Office. One was a reminder of an increasing need for punctuality because of parliamentary interest; the other more positively made a contribution to punctuality since it was accompanied by six blank copies of **Blue Books** as a contingency reserve.⁵² However, in March 1840 the Colonial Office had still not received the 1838 **Blue Book** and the Secretary of State firmly reminded Governor Gipps of 'Chapter 5 of the Printed Book of Regulations, Page 51' which forbade him to pay 'the first Quarter of the year's Salary to the Colonial Secretary unless he shall have delivered the **Blue Book** for the previous year to the Governor for transmission to this Office'.⁵³ The Governor responded promptly but shifted the blame from the Colonial Secretary:

. . . finding every exertion which I have hitherto used ineffectual to expedite returns from the different Heads of Departments, which are required for the compilation of this Book, I have this day given an order that no salary shall be issued to any person whom so ever, from whom returns for the Blue Book may be due on the 1st of March in every year.⁵⁴

In January 1841, Lord Russell heartily commended Gipps' action,⁵⁵ but several months later came the order that the Colonial Secretary should not escape the penalty if he was laggardly; it

other public officers had not punctually submitted their returns then the Colonial Secretary, as a stopgap, should submit an incomplete **Blue Book** on time.⁵⁶ Punctuality was now even more pressing because henceforth the **Blue Book** and the Governor's Annual Report accompanying it were to be submitted together to Parliament. To assist in meeting this timetable the accounting period was changed from the calendar year to the year ending 30 September, and a tight schedule was imposed on Governors to transmit the **Blue Book** by 30 November.⁵⁷

The Annual Report now put the Governor in the firing line. He was strongly reprimanded for not sending a report for 1839.⁵⁸ His 1840 report was '**not**' of the character required:

The Report now before me describes merely the political and Judicial constitution of the Colony; whereas it was the object of the instruction to produce a review, retrospective and prospective, of the state and condition of the Colony, under each of the heads into which the Blue Book is divided.⁵⁹

Gipps may have drawn some solace from a significant rider to this criticism: 'At the same time, I have pleasure in acknowledging the very satisfactory manner in which the Blue Book itself is prepared'.⁶⁰ What the Colonial Office required in the Annual Report involved the presentation of a variety of statistical information, and a later Secretary of State (Earl Grey) was to refer to it as 'the Statistical report on the State of the Colony'.⁶¹

The change to the year ending 30 September was short-lived. Governors complained of difficulties and strict comparability with earlier returns was lost. From 1844 the calendar year was again used and three months grace was allowed for preparation and dispatch.⁶² This appears to have begun a period when the New South Wales returns were regarded as satisfactory. The fact that they were not dispatched until May rather than by 31 March was accepted apparently without comment by the Colonial Office.

New South Wales Blue Book: Size, Scope, Distribution and Accuracy

The changing size and composition of the New South Wales **Blue Book** between 1822 and 1855 reflects the increasing size and complexity of the New South Wales Government and economy, the changing British interest in New South Wales, and the production of statistics in response to local developments as well as British needs.

The 1822 Book consisted of 154 pages; it was 218 pages in 1830, 410 in 1840 and 803 in 1850. The inclusion of the census in the 1856 volume raised it to its peak of 1,020 pages.

The instruction for the contents of the 1821 **Blue Book** referred only to the establishment and to government financial matters. A broader coverage was indicated for 1822 with the addition of the topics of population, trade and currency. The 1825 Book had an appendix written in with results of the 1825 muster and some miscellaneous statistics.

In 1828 a wider range of subject matter was introduced into the **Blue Book**. Additional topics added to the printed table of contents, on which reports were required, included: Education; Agriculture; Manufactures; Mines and Fisheries; Grants of Land; and Gaols and Prisoners. These changes appear to stem from a new emphasis being given to the purpose of the compilation. In late 1828, the Secretary for State sent a circular to all Governors in which he made a very good case for the annual production of a wide range of official statistics. After referring to the importance of the **Blue Book**, he stated that an 'additional measure' would be for Governors to use their annual address to the legislature as a

fit occasion for exhibiting in detail a view of the existing state of the Colony, and of exhibiting in a clear and methodical form such statistical information as is most important to a correct understanding of its past progress and future prospects.⁶³

To this end he suggested a number of topics on which information should be gathered. The statement would then 'lead the mind of the governor himself to an exact scrutiny into all those circumstances which most affect the welfare'⁶⁴ of his settlement. For the Colonial Office, knowledge of this material would permit 'good government', because 'an exact summary of facts with a careful though brief enquiry into their causes and probable results will supply a deficiency which is daily felt'.⁶⁵ In 1836 a printed abstract of the 1836 census was included. What might be regarded as the first move towards the format of the **Statistical Register** was the inclusion in the 1841 **Blue Book** of a section headed 'Printed returns' (pp. 384-395) which presented economic and demographic statistics over a period, often from the 1820s, to 1840. In 1843 this became a section of 13 pages headed 'New South Wales: Statistical Returns: From 1822 to 1842', and it was in fact a paper printed for the Legislative Council. These returns, normally covering ten years were included in each subsequent **Blue Book**, and by 1855 had reached 44 pages. They normally arose from annual figures entered in earlier **Blue Books**. Other printed matter entered the **Blue Book**: returns of New South Wales banks, exports and imports; in 1855 the large section relating to Taxes, Fees, revenue and Expenditure was mainly printed. It should be emphasised that overwhelmingly the largest section of the **Blue Book** remained the civil establishment, which in 1851, for example, made up 274 pages, almost one-third of the total.

The **Blue Book** began, and essentially remained, a hand-written document. Initially the Colonial office appears to have envisaged a production run of two. On the cover of the New South Wales book for 1822 was printed: 'This Book and the Duplicate of it must be returned to the colonial Office'. But another copy was made and retained by the Governor. Following representation from colonial legislatures the Secretary for the Colonies agreed they should retain a copy. In the case of New South Wales he instructed Governor Bourke in January 1837

to lay [a copy] annually before the Legislative Council . . . It is highly proper that the Council should have access to these Returns, and the knowledge that they will be subjected to the scrutiny of that Body will serve as an additional motive to correctness, to those officers in the various Departments, to whom you must look for the details of which the Blue Book is composed.⁶⁶

At the bottom of the contents page of the 1836 Book was the additional statement: 'Triplicate to be retained for the Governor's information'. And added to this distribution in 1839 was: 'One for the Council, and the other for the Assembly'. An exception to the usual hand-written Book was the 1828 production. The Colonial Office wanted 30 printed copies to be prepared in New South Wales for a Parliamentary Committee. Printing posed problems and these were advanced by the Colonial Secretary as one reason for the lateness of the return:

I shall only observe on this subject that those, who have experienced the expedition with which such things are done in London, can form no idea of the difficulty of getting any printing containing what is called **Ruled-work**, or any thing out of the common way done in this Colony.⁶⁷

New South Wales had considerable difficulty in arranging its financial accounts in the manner required for the **Blue Book**. This reflects both the casual accounting which existed and the lack of trained and experienced officials to introduce and operate the new system. Specific areas like the Commissariat and customs required overhaul. But pressure from Britain, auditing requirements and the growth of experience meant that by the beginning of the 1830s the accounts appear to have been in reasonable shape. Giving evidence to a Select Committee on Colonial Accounts in 1837, G. R. Porter, head of the newly-formed Statistical Department of the Board of Trade, said of the **Blue Books** in general: 'at first they were found to be exceedingly inaccurate'⁶⁸, but later he emphasised 'great and progressive improvement'⁶⁹ especially over the last two or three years. Among the returns which were 'very good' he included those of New South Wales and Van Diemen's Land.⁷⁰

In two areas the New South Wales returns were admitted to be in significant error. One was vital statistics where no attempt for complete coverage was made until the middle 1850s. The other was agriculture. There are numerous warnings as to the usefulness of the agricultural statistics; a very strong assessment was made as late as 1859:

It is much to be regretted that information of so much importance . . . should be left to the casual and unchecked collection of the constabulary . . . It would be a mere waste of time to enter upon an analysis of figures in which no one believes . . .⁷¹

Blue Book: Other Colonies

Van Diemen's Land produced its first Book for 1822, the same year as New South Wales, and maintained annual delivery without a break. Two other colonies began completing their Books once they had overcome early settlement problems. Western Australia began in 1834 and South Australia in 1840. Victoria began in 1851, immediately after separation from New South Wales. As with New South Wales, these **Blue Books** reflected growing local concern with statistics, and small volumes of official statistical returns began to appear semi-independently of the **Blue Book** themselves. Possibly the earliest such volume was in Van Diemen's Land. In response to a request from Governor Arthur for a statistical coverage of his period of office, the Colonial Secretary produced the **Statistical Return of Van Diemen's Land for the Years 1824 to 1835**. It contained forty-six tables.

CENSUSES

New South Wales

The first formal census of the modern type in Australia was held in New South Wales in 1828. It had been recognised that the previous proclamations by the Governor calling free citizens to muster had no legal force, and this census was authorised by Act of the New South Wales Legislative Council (9 Geo. IV., No. 4) dated 30 June 1828. It was described as 'An Act for ascertaining the number, names, and conditions of the Inhabitants of the Colony of New South Wales; and the number of Cattle; and the quantities of located, cleared, and cultivated Land within the said Colony'.⁷² In framing their first census New South Wales administrators were of course aware of the English model of 1821, but in fact they appear to have been more influenced by Australian conditions and to have followed in the tradition of the musters. Information was obtained for New South Wales relating to age, sex, occupation and religion and for housing in Sydney. Details of 'class' were also required.

The Column for the 'Class' is to be filled up with one of the following Abbreviations, according to the Circumstances, viz., B.C., for Born in the Colony; C.F., for Came Free; F.S., for Free by Servitude; A.P., for Holding an Absolute Pardon; C.P. for holding a Conditional Pardon; T.L., for Holding a Ticket of Leave; C., for Convict; C.S., for Colonial Sentence; and G.S., for Government (or Assigned) Servant.⁷³

This concern with civil status reflected the continuing penal aspect of the colony: of a civil population of 30,827 over 12 years of age registered at the census, roughly three quarters had been or were convicts. Other information obtained in the census related to numbers of stock and the area of cultivated land.

What was distinctively new in this census was the distribution of printed forms by responsible persons 'by whom, as well as by the respective Householders, who can write, each Form is to be signed when duly filled up'.⁷⁴

How accurate was this first census? One observation in 1836 noted that all population enumerations in New South Wales 'are considered very inaccurate by those who know the colony well, especially that of 1828, when the settlers were apprehensive of the establishment of a poll tax'.⁷⁵ This assessment of the 1828 census was repeated, perhaps not independently, in a paper read to the Statistical Society of London in 1849.⁷⁶ An official recognition of inaccuracy in the total count is in a note appended to the 1828 return in the **Blue Book**. It declared that account should be taken of Runaway Convicts in the Bush', 'Persons who have no fixed Place of Residence' and 'Omissions that may have occurred', but that in total these 'do not exceed 2,000 persons'.⁷⁷

Censuses in New South Wales were carried out in 1833 and then after only three years in 1836, presumably to adapt planned five-year periods to the British decennial census dates which began in 1801. The five-year interval was maintained in New South Wales from 1836 to 1861. After 1828 the agricultural section of the census was dropped, and in 1833 and 1836, possibly because the Governor was sympathetic to public sensitivity, civil condition was simply distinguished as free or convict. Between 1841 and 1851, when the question was put for the last time, ex-convicts were identified. The census of 1841 was said by a contemporary to have been 'taken from the principle laid down in the former Census Acts of England, with such alterations as the nature of our society and our circumstances rendered expedient'.⁷⁸ Supervised by the Colonial Secretary, E. Deas-Thomson, this census showed 'a marked advance over all preceding enumerations'.⁷⁹ As well as a more detailed population census there was an enumeration of housing in New South Wales. In the 1846 census two new lines of inquiry, education and birthplace, were added to the seven of 1841; results were now presented in fifty-six tables instead of five.⁸⁰ The 1851 and 1856 censuses were very similar to that of 1846; the 1856 census, the first after self-government, was introduced by a report analysing the returns.

Other Colonies

Beginning in 1841 the Port Phillip district was distinguished in the New South Wales censuses; by then the population was 11,738 compared with the 224 of 1836. Legal separation from New South Wales was accomplished in 1851, and the only census conducted by the Victorian authorities before self-government was in 1854 - in the middle of a population explosion brought on by the gold discoveries. Formally it was in the hands of the Registrar General, and the British example was drawn upon heavily. British schedules were adapted by W. H. Archer, the Assistant Registrar General, 'to the circumstances and requirements of the Colonial Census'⁸¹, and the information was published in the British form 'to comply with the expressed desire of scientific men at home, that the statistics of every part of the Empire should be drawn up on one uniform plan'.⁸² There was little time for preparation for this census, and the Registrar General emphasised the difficulties he faced.⁸³ In the event, the census showed a growth of population from 77,345 in 1851 to 236,798 in 1854. There is further discussion of this census in a later section.

There were censuses in 1841, 1844, 1846 and 1851 in South Australia. The 1841 census appears to have classified the population by age and district only. The later censuses added conjugal condition, religion, occupation and housing.

In this period the population of Western Australia was very small. The Registrar General in 1848 claimed that the count of that year was the first 'systematic census', although earlier, almost annual enumerations existed.⁸⁴ In 1848 the total non-Aboriginal population was 4,622 and was classified in districts by age, conjugal condition, religion and occupation. Agricultural information was also obtained. By the next census in 1854, convicts had been introduced and the population was 11,976. At both censuses some information was collected on Aboriginal numbers.

Censuses began in Van Diemen's Land at a date considerably later than in New South Wales. They were held in 1842, 1843, 1848 and 1851. In 1842 the population of 57,420 was classified for each district by age, conjugal condition, civil condition, religion, occupation and housing. There was little change in the schedule over the four censuses. Like New South Wales, Tasmania was a convict colony and 'civil condition' specified whether 'free' or 'bond', and within the free group ex-convict's were distinguished. An assessment of these censuses describes them as being 'of doubtful accuracy'.⁸⁵

CONCLUSION

Three main vehicles of official statistics have been identified for the period from the foundation of Australia to 1855. Up to 1822 attention was directed to a wide range of reports for the British authorities, a large proportion of which came directly from the Governor's office. From 1822 annual **Blue Books** of statistical information, designed by the Colonial Office, were the most important means of reporting. Local influences increasingly affected the character of these books, and the practice developed of retaining copies in the colonies for local use. The Governor remained formally responsible for their production, but the actual statistical collating devolved on to a public servant, usually the Colonial Secretary. The third type of official statistic was the census, the first being held in 1828 in New South Wales. The form and the timing of the censuses were decided in the colonies.

What was achieved in the Australian colonies must be seen in the context of developments in British official statistics. Although decennial population censuses began in 1801, it was not until the 1830s that attention was directed towards making some general use of the statistical material generated by individual government departments. Forth is purpose the Statistical Department of the Board of Trade was formed in 1832. Its head was G. R. Porter, a distinguished statistician, and it is claimed that under him 'the incoherent mass of periodical tables then prepared was for the first time reduced to orderly and comprehensive returns, accompanied by lucid explanations of the meaning and limitations of the figures...and giving to it a comparative character by including the figures for a series of years'.⁸⁶ Further evidence of the growing interest in the social usefulness of statistics was the formation of the Statistical Society of London (later Royal Statistical Society) in 1834, the function of which, according to its prospectus, was to 'procure, arrange and publish facts calculated to illustrate the condition and prospects of society'.⁸⁷

It was easier to impose the collection of such statistics on the colonies, than to negotiate their introduction into Britain. The annual production of statistical material in some thirty colonies throughout the world, required by the *Blue Book*, was a significant statistical achievement. Colonial practice was ahead of Britain's. Not until 1854 was the first Statistical Abstract produced for the United Kingdom: it covered the years 1840 to 1853 and was a mere 27 pages in length.⁸⁸ The Statistical Returns prepared for the Legislative Council in New South Wales in the 1840s stand comparison with it.

At the beginning of the 1850s the five small Australian colonies, with a total population of some 400,000, were producing statistics relating to their societies which were impressive in quality and range. Their small bureaucracies had become accustomed to the discipline of the annual production of statistical material to meet the standards of an outside authority. The impact of self-government remained to be seen.

PART II: COLONIAL STATISTICS 1855-1900

INTRODUCTION

When the Australian Colonies of New South Wales, Victoria, Tasmania, and South Australia obtained self-government in 1855-56, they no longer had the obligation and discipline of producing statistics to meet the requirements of the Colonial Office. These statistics had been required to assist in the administration of an empire, but it has been shown that the colonies had already taken some steps to produce statistics to meet local needs. Now it was entirely for the colonies themselves to decide on the range and quality of their statistical records. Inevitably, there was a transition period and equally the responses of the colonies, although there were marked similarities, were different. What stands out in this period is the statistical work done in the two main colonies of Victoria and New South Wales. This work was associated in different periods with three distinguished statisticians: W. H. Archer and H. H. Hayter in Victoria and T. A. Coghlan in New South Wales.

In what follows, the discussion relates to three main themes: first, there is the production of an array of general statistics usually published in annual form; here, emphasis is placed on the volume which brought together these statistics, commonly called the 'statistical register', and on the 'year book' which commented on them.⁸⁹ The second theme is the carrying out of the regular population censuses, and the third bears on the relations between the colonial statisticians and the attempts to coordinate their work. These themes are combined within three historical stages associated with the three leading statisticians: Archer in Victoria between 1853 and 1874, Hayter in Victoria from 1874 to 1886 and Coghlan in New South Wales from 1886 to the end of the century. In these periods the focus is placed on these particular colonies, but work in other colonies is also considered.⁹⁰

W. H. ARCHER AND OFFICIAL STATISTICS 1853-1874

W. H. Archer was born in 1825 in London. In 1841 he took employment with the Medical, Invalid and General Life Assurance Co. as a clerk under the actuary, F.G.P. Neison. Converted to Roman Catholicism in 1848 he took a professional interest in Catholic friendly societies, and in 1850 became the managing actuary to the Catholic, Law and General Life Assurance Co. This position could not be sustained by the company, and Archer, following his brother, migrated to Melbourne in 1852.⁹¹

Archer's statistical apprenticeship and development were obtained when, for the first time, the systematic collection and analysis of social and economic statistics were being attempted in England. This 'statistical movement' has been identified by historians as one of the significant features of the period.⁹² Its main institutional aspects were the foundation of the Statistical Society of London (later Royal Statistical Society) in 1834, and the establishment of two government institutions: the Statistical Department of the Board of trade in 1832 and, in 1837, the General Register Office to collect and collate figures on births, deaths and marriages.

In the 1840s a strong emphasis was placed on the need for accurate social statistics, especially those bearing on health and education, so as to obtain the knowledge with which to reform and improve society.⁹³ Two statisticians of the period had particular influence on Archer. One was the great William Farr who had a special interest in medical statistics; he corresponded with Archer throughout his life. The other was Neison, Archer's original employer. He was a professional statistician of standing, and his criticisms made him 'something of the **enfant terrible** of social statistics in the 1840s'.⁹⁴ Archer was later to say that 'all my Studies and previous habits of life have been moulded under the ablest Actuary in England . . .'.⁹⁵

Archer's arrival in Melbourne in November 1852 was propitious. Victoria had been established as a colony separate from New South Wales in 1851, and until self-government was obtained in

1855, effective power lay with the Lieutenant-Governor and his nominated Council. The new colony needed able administrators, and the gold bonanza helped to provide the means to pay for them.⁹⁶ More immediately, in January 1853 an Act was passed for the civil registration of births, deaths and marriages⁹⁷ and, in February 1853, as Archer put it: 'the Colonial Secretary . . . placed in my hand the Act . . . requesting me to draw up a general plan for the guidance of the Registrar General, and rules in detail for the Deputy Registrars of Births and Deaths'.⁹⁸

Archer's instructions on 25 February were 'at a moment's warning both unexpectedly and unprepared'.⁹⁹ Nevertheless, he was able through two communications on 10 March and 22 March to respond quickly and fully to his commission, and the Colonial Secretary expressed his satisfaction: 'Let every arrangement be made as far as possible to carry the system proposed into effect - emendations and alterations may be made according to circumstances'.¹⁰⁰

Archer was assisted, no doubt, by the fact that he brought with him from England 'the labour of many years under Mr. Neison'.¹⁰¹ Indeed, his proposals drew heavily on English experience and practice. In his 'Preliminary Remarks' he strongly recommended that the districts defined for registration and for the population censuses should be identical. Unless this was done 'a thousand social problems of vital interest to a state must remain wholly unsolved'.¹⁰² The absence of this identity in England had drawn Neison's strong criticism in 1845.¹⁰³ In another and marked improvement on English practice, Archer recommended more details in the birth, death and marriage schedules 'in accordance with a report made by a Registration Committee appointed by the Council of the Statistical Society of London'.¹⁰⁴

It is clear that in his proposals Archer saw himself as the agent for the establishment of the profession of statistics in the Australian colonies. He noted that the Act called on the 'Chief Registrar' to provide annually a general abstract of the number of births, deaths and marriages. He continued:

The proper compilation of such a document can be done by a Statist only. In England this duty has been performed by William Farr in a way to raise that nation in a Statistical point of view, to a high position in the eyes of the scientific and legislative world. And it has brought him into communication with the ablest statist on the continent, where the System of Numerical Observation has been carried to a degree of refinement, and a scientific excellence worthy of emulation by every state; particularly by the Colony of Victoria, in which is opened up a new and rich field for the cultivation of that most important branch of modern Philosophy Vital Statistics. The Government Statist of Victoria would doubtless find ready and willing operators in every direction; as all scientific minds must at once see the value of the peculiar developments likely to be manifested under the very singular social condition of the Inhabitants of this Colony.¹⁰⁵

The whole emphasis of Archer's recommendations was on the collection of social statistics, especially as in the English tradition, those that bore on health and education:

After the great mass of material has been stored, then will come the necessity of analysing it, classifying it and deducing from it the general laws that govern our existence in relation to health, disease and morals.¹⁰⁶

Some particular areas in which Archer thought work could be done included 'the Sanatory Condition of the Registrars' Districts, and the state of Crime, Lunacy and Education with the extent of disease and intemperance among the general population'.¹⁰⁷

Along with making recommendations for registration of births, deaths and marriages, Archer had been asked to prepare the **Blue Book** and a consequent collection of general statistics. Such tasks had been performed in the colonies in the office of the Colonial Secretary. In his report, Archer recommended in a few lines that the Registrar General, as one of his minor duties, should prepare the **Blue Book**. It may be that Archer thought it natural that the task should accompany

his person. In fact, this was a development of significance. For the first time, the collation of general statistics was to be performed by the officer responsible for collecting and analysing an array of vital and social statistics. What had begun was the establishment of the Registrar General as the statistical officer for the Victorian Government.

Archer began the preparation of his first **Blue Book** on 11 March, the day after his first report. A major problem was to obtain the statistical returns from the heads of various government organisations: Archer found that not all returns had been made, and of those that had, only five were satisfactory; the ultimate threat of stoppage of salary had to be invoked. The **Blue Book** was completed by 21 July to the Governor's satisfaction, and Archer was then given the task of writing the accompanying dispatch. Concurrently with the preparation of the **Blue Book**, he threw himself into setting up the administrative system for the registrations of births, deaths and marriages.

Archer's ability and vigour were recognised to the extent that he was made Acting Registrar-General from 1 July to the end of the year, but his hope of being confirmed in that position was not fulfilled. He was informed in August that the office was to go to the Governor's private secretary, Major E.S.N. Campbell. Archer, who had previously been promised by the Governor that, whatever the decision, he would retain a degree of independence, was made Assistant Registrar-General.¹⁰⁸ It is reported that the two men 'worked well together and held each other in high esteem'.¹⁰⁹ After Campbell's death in January 1859, Archer was made Registrar-General, a position he held until 1874.

It took several years for the system of registration to come into full operation. Clergymen had to be instructed on the use of marriage forms; medical men educated in the use of William Farr's nosological table. A colony-wide network of deputy and assistant registrars to record births and deaths had to be established. For this latter task Archer rode the countryside during 1853 and 1854 recruiting suitable men who could cope with distance and scattered habitation.¹¹⁰ He selected all sorts: 'settlers, medical men, clerks of the peace and petty sessions, schoolmasters, postmasters, chemists and druggists, and sometimes storekeepers'.¹¹¹ But he preferred medical men: 'they are about a good deal among their patients; they know personally or by repute most other people in their district, and are found to be intelligent and efficient agents.'¹¹² In April 1855, 127 registration officers were employed and 133 ministers of religion registered marriages.¹¹³ It was thought best, as far as possible, to avoid connection with the legal system. Popular distrust would have reduced registrations. Indeed, Archer was warned that some Irish, especially recent arrivals, avoided the Registration Officer: 'They suspected something disadvantageous would eventually result from it - on the part of the Government.'¹¹⁴

When the whole system was in place, Archer believed he had created something unique.

England has nothing so complete, nor has any other country that I am aware of. Victoria has therefore the honour of being the first to work out so uniform and elaborate a system; and hence the Mother country may learn something in the practice of the youngest of its Colonies.¹¹⁵

Victorian Annual Statistics

In 1852 a statistical collection was printed by order of the Victorian Legislative Council entitled **Statistics of the Port Phillip District, (Now the Colony of Victoria) for the Year 1850**. Only thirty-five pages in length, it had its origins in the **Blue Book** and in form was simply a continuation of the series begun for New South Wales in the 1840s.

Archer was responsible for the next collection for 1852 entitled **Statistics of the Colony of Victoria**. This began a series which appeared annually under this name up to 1873, becoming

the **Statistical Register** in 1874. This volume of forty-one foolscap pages was produced by Archer in the first hectic months of his appointment, and he felt it necessary to introduce them with an apology:

The 'Annual Statistics', being a formal document, the precedents of previous years have been strictly followed, and no important modification of the Tabular Matter has been made. The information had been applied for according to the old forms, before my appointment, and nothing was left for me but to make use of the particulars obtained in the old way.¹¹⁶

However, he went on to promise better things:

In future, more precise and methodised results will be obtainable with regard to the Statistics of the Colony, His Excellency having honoured me with commands to prepare an 'Annual Register,' which, I trust, will prove a truthful reflex of the Social and Physical Condition of Victoria throughout every coming year.¹¹⁷

It was probably the Governor's 'commands', referred to by Archer, which were responsible for his production in 1854 of a curious volume entitled **The Statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855**.¹¹⁸ The work of 447 pages gave principal space to the astronomical calendar; a rural calendar; a list of legislation, proclamations and proceedings of Council; an examination of the Registrar General's Department; and miscellaneous statistics between 1841 and 1853.

Archer saw the book as 'a humble attempt to commence a series of Registers, or Books of Reference, that may from time to time faithfully reflect the progress of this extraordinary Colony'. He acknowledged that 'mechanical difficulties' and 'pressure of multifarious duties' had given it 'somewhat of a fragmentary character'. And this was in spite of the 'warm interest' of Governor La Trobe, who 'read over with me several of the proofs . . .'¹¹⁹

As well as this single volume of Archer's, produced in 1854, the mainstream of **Statistics of the Colony of Victoria** continued. The 1853 introduction apologised, as it had in 1852, for the quality of the statistics. It maintained that what was 'urgently needed' was 'a more reliable and efficient system of collecting statistics, than that which has hitherto prevailed . . .'¹²⁰ The agricultural statistics, which were collected by the police, were acknowledged to be most inaccurate. As a result, the Registrar General said that he

proposed to try this year the experiment of collecting, through the medium of the Registrars, instead of that of the police constables, the materials for the various returns required for the Blue Book . . .¹²¹

The use of his own department in the collection of agricultural statistics further strengthened the role of the registrar General as the statistical officer for the government.

At first, the Deputy Registrars had only moderate success in their attempts to gather the agricultural statistics:

It is more difficult in many cases to obtain information from the parties who alone are able to supply it, owing to prejudice or misconception of the objects of an enquiry which they deem to be inquisitorial, and it has happened in some instances that not only have gates been barred and dogs unloosed on the approach of the Collectors, but abusive language has been showered upon them, as the supposed precursors of increased taxation.¹²²

The 1855 **Statistics** were largely given over to the agricultural returns, but the Registrar General had to admit that 'that accuracy of the information . . . must . . . remain a matter of opinion . . .'¹²³ However, rapid improvement was claimed. For the 1858 returns, the registrar General noted that 'the collectors are unanimous in bearing testimony to the general willingness of the people to

afford them every information and assistance'.¹²⁴ And by the early 1860s Archer could boast of the achievement:

Upon the whole, the machinery employed to procure these statistics may be considered to answer its purpose admirably well, and I believe that the returns, both in point of accuracy, and also in regard to the interesting nature of the details they exhibit, are fully equal, if not superior, to the agricultural statistics of any other country.¹²⁵

1861 marks something of a landmark in the development of the annual statistics. Previously, the contents had not been organised in any systematic manner; in 1861 the format below was developed, and was maintained for the rest of the century.¹²⁶

STATISTICS OF THE COLONY OF VICTORIA FOR THE YEAR 1861			
CONTENTS			
			PAGE
Part	I	Population	5
Part	II	Production	39
Part	III	Interchange	57
Part	IV	Finance, Etc.	221
Part	V	Accumulation	251
Part	VI	Religious, Moral and Intellectual Progress	261
Part	VII	Litigation, Crime, Etc.	273
Part	VIII	Vital Statistics, Etc.	297
Part	IX	Civil Establishment, Etc.	336
		Foreign Consuls	402
		Index of Officers	403
General Index			441

Not only was the formal shape of the volume determined in 1861, but the general thrust of the statistics had been made clear - especially by developments over the previous three years. During this period, the space devoted to statistics (not including the Civil Establishment) grew by some 275 pages. New material included: vital statistics; population material from the census; much more detailed information on foreign trade relating to value, quantity and country of origin or destination; a section on wages and prices; employment and power in manufacturing; and sundry statistics on migration, railways, interstate estates and banking.¹²⁷

Between 1861 and 1872, the last year for which Archer was responsible, developments were not so marked. The statistics grew by some 75 pages, including friendly societies and more material relating to crime and punishment. The most significant change took place in the collection of agricultural and manufacturing statistics, where, Archer's claims not with standing, all was not well. At least by 1863, tenders were being called for the jobs of the collectors.¹²⁸ In 1868 and 1869 Crown-lands bailiffs were used. Then in 1870 because, it was claimed, of the expense and the dissatisfaction with the quality of the figures, the job was given to the local authorities.¹²⁹ Advantage was taken of amendments to the local government Act in that year to force local authorities, by means of their rate assessors, to collect the statistics. The result was much more detail in agricultural and manufacturing statistics, which were claimed to be 'most accurate'.¹³⁰

Annual Statistics in Other Colonies: Production and Uniformity

Developments in other colonies followed a similar pattern to that in Victoria. But in the transition from the limited statistics of the **Blue Book** to the more wide-ranging statistics collected and presented primarily for local needs, Victoria was the pace-setter and example. In New South Wales annual volumes of statistics were published by the Colonial Secretary until 1857. From 1858, following the Victorian precedent, this responsibility was given to the Registrar General, C. Rolleston, who in that year produced the first **Statistical Register** for New South Wales. He saw his task as combining a condensed **Blue Book** with the annual statistical volume 'under a new title . . .'.¹³¹ He wrote immediately to Archer that he would 'like to be favored with a copy of all your general Tables, viz - Agricultural, Commercial, Mining, Manufacturing etc'.¹³² He later acknowledged Archer's leadership: 'I don't pretend to compete with you in the field of statistics. I am rather a humble disciple...'.¹³³

Within a year of taking on his new statistical task, Rolleston saw himself as the 'Government Statist',¹³⁴ and rather grudgingly accepted one of the duties.

For the information of the general public, who are not very well disposed to wade through the mass of Tabular Statements of which the Statistical Register is composed, it seems to be considered desirable that the compiler should enter upon a sort of analysis of the returns, point out the more striking features, and shew, with the aid of as few figures as possible, the comparative progress of the year past with others that have gone before it, in fact, that the Government Statist should do that which is more properly the business of individual inquirers, and of the people themselves.¹³⁵

He thought there had been an improvement in New South Wales statistics, but 'we can never hope to attain such perfection as has been arrived at in the sister Colony of Victoria with regard both to punctuality and reliability'.¹³⁶

In 1862 the statistics in the **Register** were classified under seven headings, similar to, but not identical with, those in Victoria. In the same year, Rolleston repeated earlier comments on the unreliability of the agricultural statistics, and recommended strongly that New South Wales should adopt the Victorian method of using the officers of the Registrar General to collect them rather than the police.¹³⁷

The first **Statistical Register** appeared in South Australia for the year 1859. The first Queensland *Register* for 1860, the year after separation from New South Wales, was modelled closely on the example of that State.¹³⁸ The lack of uniformity in the coverage and presentation of the statistics in these annual volumes was felt keenly in some colonies. The superintendent of the South Australia census reported that Rolleston and the New South Wales Government urged action, and that:

The Government of Victoria expressed a hope that the views of Mr Archer, to the effect that the three colonies should not only unite in regard to the enumeration of the people, but to recast and assimilate, in concert, all 'blue book' and other statistics, on a scientific and practical basis,' would meet with the concurrence of the Government of New South Wales and South Australia...¹³⁹

The South Australian Government responded to these views and the 1859 **Statistical Register** was the result. Nevertheless, in South Australia this was regarded as only a 'preliminary step' towards unity.¹⁴⁰ Pressure for a meeting of statisticians built up, and it is claimed that the decisive initiative came from the Governor of South Australia, who obtained the backing of the British Government.¹⁴¹ He wanted a meeting in order to:

. . . not merely arrange there the forms of the most important and general statistical tables common to all these Colonies, but more especially investigate the process of obtaining, in the first instance, the details summed up afterwards in the annual statistical returns of each Colony.¹⁴²

Melbourne was recommended as the meeting place 'as the most central capital',¹⁴³ and the conference took place during October-November 1861.

There were local reasons for the conference, but what was happening was representative of a wider scene. The rapidly growing acceptance in advanced countries of the need for official social and economic statistics had led to international moves for statistical co-ordination and standardisation. The first international conference was held at Brussels in 1853. The year before the Australian meeting, the European International Statistical Congress was held in London in 1860. Archer had written to Farr that he was 'unable to get to England'¹⁴⁴ but all the self-governing Australian colonies sent representatives.

The Melbourne Conference was attended by the Registrars General of Victoria, New South Wales and Queensland and the South Australian Superintendent of the Census. Discussion centred on obtaining agreement on practical steps to achieve a degree of uniformity in content and classification of the annual statistical publications. Archer 'presided' and was the dominant figure.¹⁴⁵ At the final meeting:

Documents illustrative of the system pursued in Victoria relating to the collection and tabulation of Blue Book and Census data were handed in...Mr Archer undertook to construct a model of a Statistical Year Book based on the resolutions of the conference just held such as would be suitable for Victoria and to submit it for consideration and final approval to the representatives of the other colonies as soon as it would be possible to do so.¹⁴⁶

Population Censuses

Since the taking of the census had always been in local hands, the obtaining of self-government could not be expected to bring significant changes. The Victorian experience at this time was somewhat different from the other colonies. The 1851 census had been carried out as part of New South Wales, but separation meant the establishment of its own census administration while at the same time society was transformed by the inrush of population. Such change was being experienced that it was felt necessary to follow the 1851 census with two more within a short period - in April 1854 and March 1857. Responsibility for the 1854 census was given with very short notice to the newly-created office of the Registrar General. Previous censuses in the Australian colonies had been conducted by the Colonial Secretary. In his Report, the Registrar General described the circumstances of the difficult environment he found:

... a new country ... about the size of England, Wales and Ireland united, devoid for the most part of public roads ... and in some parts absolutely impracticable for travellers ... These natural difficulties were in no small degree enhanced by the prejudice which unfortunately existed in the minds of many of the uneducated portion of the community against what was conceived to be an inquisitorial proceeding, and by the unsettled habits of a large body of the people perpetually on the move from one gold field to another by various routes, and whom it was exceedingly difficult to overtake. The absence of recent and complete maps was also much felt.¹⁴⁷

The speed of preparation gave little time to prepare the population or to train the enumerators: 'Many of the 45,880 schedules were almost as difficult to decipher as an Egyptian inscription; not to mention the Chinese returns ...'¹⁴⁸ The schedules themselves were of the form employed in the United Kingdom, adapted by Archer to the conditions of the Colony. Questions were directed towards age and sex, religion, conjugal condition, education, occupation and birth place. As compared with the 1851 census, there were no questions on 'civil condition' (convict, freed or free) and housing. The form of presentation of the results of the census followed the example of the British Census of 1851, especially since it was 'considered advisable ... to comply with the expressed desire of scientific men at home, that the statistics of every part of the Empire should be drawn up on one uniform plan'.¹⁴⁹ There was nothing novel in the questions on the census schedule, apart from the classification of occupations. In 1851 the British had adopted a

classification made by William Farr, and in 1854 Archer followed suit. The problem of occupational classification was to develop as an important cause of disagreement between the colonial statisticians. It is discussed later.

There were reservations concerning the accuracy of the 1854 census. More confidence was placed in the results of the 1857 census, because of the more careful preparation and the more settled nature of the population. Housing was added to the questions.¹⁵⁰

Along with the attempts to produce uniform annual statistics in the second half of the 1850s, discussions and negotiations began to hold a census in 1861 in all the Australian colonies on the same date as that in Great Britain and Ireland. Victoria, New South Wales and South Australia were the main proponents. Archer wrote to Farr in 1859:

The Governor of South Australia is desirous to aid in securing a uniform Census throughout these Colonies in the Year 1861, when the South Australians are to have their Census. The registrar General of New South Wales and myself, wish to have it on the day of the English Census in 1861 & I am anxious at all events that Victoria and England should be enumerated in the same 24 hours. If you could kindly moot this at your Congress, and stamp the notion with your approbation, it will fillip the Australian Governments and support my efforts amazingly.
151

The South Australian Superintendent of the Census indicated some of the benefits that resulted from this attempt at co-ordination:

Considerable correspondence ensued with the Imperial and Local Governments in the arrangement of the facts to be inquired into, and the mode of procedure to be adopted in tabulating the results obtained, the effect being a valuable addition to our knowledge as respects existing methods, and the formation of the basis of one uniform system . . .¹⁵²

In the event, four colonies, Victoria, New South Wales, South Australia and Tasmania held their censuses within 24 hours of 7 April 1861. For the first time other colonies adopted the occupational classification used by Britain in 1851; the South Australian Superintendent had a slightly different emphasis:

The general grouping is precisely similar to that of Victoria, which was recommended as most serviceable by Mr Archer, the Registrar-General...It is also piratically the same as that of Great Britain...¹⁵³

Only three colonies, Victoria, New South Wales, and South Australia held their censuses on the same day in 1871.

Assessment

'We are all delighted to have hit upon you Mr Archer. You have the head that we wanted.'¹⁵⁴ La Trobe's early assessment was to the point. Victoria was extremely fortunate to obtain as its first statistician a man who had just completed his statistical training in England when, for the first time, considerable attention was being paid to the recording, collection and analysis for a large range of statistics.

There were two outstandingly weak areas of statistics in the old **Blue Books**. One was vital statistics which depended mainly on the clergy; the other was agricultural statistics which were collected by the police. Within a few years both had been tackled by Archer. Vital statistics were comprehensively recorded by agents responsible to the Registrar General, and with a wealth of detail far ahead of English practice. Much the same was done for agricultural statistics; a yearly series, and then only with very limited information, did not begin in England until 1868.

Improvements were not limited to these two areas, but extended to the general range of annual statistics and the census.

Archer was the dominant colonial statistician. No other statistician had his connections with the wider world in England. His annual statistics were the model for the other colonies. He helped provide the leadership for obtaining uniformity in the schedules and timing of the census. Through his stature, and by combining a number of statistical roles in the one office, he paved the way for the later emergence of the specialised position of government statistician in Victoria and other colonies.

Archer's second decade was not as productive in statistical terms as his first. There is the appearance of administering an office rather than acting creatively. He was involved in political and administrative manoeuvres, studied law, added "register of titles" to his duties in 1868 and then in 1874 was promoted from Registrar General to Secretary of Lands and Survey. During this period in 1861, 1867 and 1873 he produced 'statistical essays' on the 'progress of Victoria'. These essays, which briefly discussed tables of Victorian statistics, were occasioned by 'exhibitions' held in Melbourne. No significant analysis of statistics emerged. In 1869, in a letter to Farr, he sought advice on administrative matters, complained that administering did not leave him time to work on a mortality problem, and hoped that Farr would make use of 'our Victorian data'.¹⁵⁵

How much of the credit for developments in Victoria statistics from about 1860 should be shared with H.H Hayter (see later) is not clear. Hayter was a clerk in the statistical branch, and was later to agree that he had been 'in charge of the office since 1861', and that 'since I have been there' Victoria had tried to be 'foremost in the compilation of statistics'.¹⁵⁶ He also claimed full credit for the taking of the 1871 census.

Whatever the balance of responsibility on the second half of Archer's term, in 1873 he recorded his satisfaction with his own role and with the results:

The statistical records of Australia are not excelled either in fullness or in accuracy by those of any other country; and as the statistical system initiated in Melbourne in 1853 is gradually being followed by statisticians in surrounding states, there is every reason to hope that, at no distant date, thorough unity will exist both of purpose and of action in relation to all the leading lines of statistical work throughout Australasia.¹⁵⁷

H.H. HAYTER - GOVERNMENT STATIST OF VICTORIA

Hayter was born in England in 1821, migrated to Australia in 1852 and in 1857 began his long association with colonial statistics.¹⁵⁸ In May of that year he began a period of temporary work for the Registrar General, which included the task of collecting agricultural statistics from an area in western Victoria.¹⁵⁹ In 1859 he was appointed clerk in the Statistical Branch of the Central Office of the Registrar General; he was soon chief clerk and carried considerable responsibility for the production of Victorian statistics. In 1874, when Archer left, the Statistical Branch was separated from the Registrar General's Office and established as a separate organisation in the Department of the Chief Secretary, 'to deal exclusively with statistics'.¹⁶⁰ Hayter was placed at its head as Government Statist, a position he held until his death in 1895.

The establishment of this separate organisation with Hayter in charge points to the status that both the office and Hayter had attained. It may also represent the fact that the Registrar General's Office had acquired considerable legal duties¹⁶¹, and that Archer was the only man who could span both the legal and statistical aspects. Once established in the new post, Hayter was soon acknowledged as the foremost statistician in Australia.

The Statistical Register

Hayter promptly used the name 'Statistical Register' to describe the volume of Victorian annual statistics. But, essentially, the volume had been created by the time he took office. No radical changes in structure took place, although the collection was improved in various ways. In trade statistics, for example, coverage was extended to include transshipments; more information was provided in such areas as government loans, crime and court activity, and individual manufacturing industries. Manufacturing was reclassified in the same manner as 'occupations' in the Victorian census.

An insight into the methods of collection and compilation of the Victorian statistics was given by Hayter in 1879 in his evidence to the British Official Statistics Committee. The material used in the **Statistical Register** was acquired in a variety of ways, and required different degrees of processing. First, there were government departments which provided statistics in their annual reports and sometimes published them independently; they nevertheless provided statistics for the Government Statist on forms provided by him. Foremost in this group were Customs (trade statistics) and Railways. Other government authorities provided unprocessed or semi-processed material: one hundred and seventy local authorities returned figures on agriculture, manufacturing, private schools and population numbers on the Statist's forms - there was, for example, a schedule agricultural holding; statistics of crime were obtained from the police who filled in a form for each individual - 27,000 a year; prisons, friendly societies, banks and savings banks all made returns; tables on births, deaths and marriages were compiled by the Statist's officers from the raw returns at the office of the Register General. Some statistics were obtained more directly by the Statist: the decennial census was carried out by him; the statistics generally supplied by local authorities, were collected by the Statist's temporary employees in areas not covered by the legislation - these included Melbourne, Geelong and outlying districts; data wages and price's were collected by the Statist's staff from newspapers and journals, with the assistance of police in country areas; information on religion was obtained by correspondence with the heads of the different denominations.¹⁶²

This array of material was obtained partly through legal powers given to the Statist, and partly by his use of personal persuasion and pressure. One way or another, he claimed he got all the statistical material he sought.¹⁶³ At the time, the permanent staff of his office who carried out this collection and compilation numbered eight and their annual salaries amounted to £2,700.

The **Statistical Register** was a significant achievement in international terms. The British Committee concluded: 'The system of statistics in this Colony has evidently been elaborated with much care, and appears to have been brought, under Mr. Hayter, into an unusually perfect condition.'¹⁶⁴ Hayter thought such a volume would be possible in Great Britain, and the Secretary of the British Committee was sufficiently impressed to recommend a new statistical department which would

. . . produce annually a complete set of Blue Books, each forming a part or volume of one work, somewhat in the same manner as the several parts of the Statistical Register in the colony of Victoria.¹⁶⁵

An immediate innovation of Hayter's in the 1873 **Statistical Register** was the inclusion of a small section of "Australian Statistics" for that year.¹⁶⁶ Hayter mentioned that the Governor of New South Wales, Sir Hercules Robinson, had attempted much the same thing for the last two years. In order to obtain the material's, Hayter drew up a form which he sent off to the other colonies to be filled in , he noticed that some had considerable difficulty obtaining the information.¹⁶⁷ Data on Fiji were added from 1878. In his introduction to the first issue Hayter said his aim was "to make the tables as comprehensive and clear as possible and they will, I believe, speak for themselves".¹⁶⁸ In succeeding years this practice was followed, but from 1875 they drew

extensive comment in the Victorian **Year Book**.

Inter-Colonial Co-operation: Annual Statistics and the 1881 Census

In January 1875 statistical representatives of Victoria, New South Wales, South Australia and Tasmania met in Hobart to discuss presenting their statistics on a uniform basis. There was a problem in the absence of three colonies - Queensland and Western Australia had declined to attend and New Zealand had been given insufficient notice. One reason for the meeting was the request from Britain, reflecting the nineteenth century pre-occupation with the subject, for the supply of uniform crime statistics. More importantly, one of the resolutions of the Intercolonial Conference of 1873 had called for action 'to facilitate comparison between the official statistics of the various Australasian colonies . . .'¹⁶⁹

The statisticians, in their report, made a large number of recommendations which were, in the event, very imperfectly acted upon.¹⁷⁰ Hayter was able to congratulate the Victorian Government that most of the recommendations were intended to bring the other colonies to the Victorian standard. One important recommendation referred to the arrangement of trade statistics. In all colonies commodities were arranged in alphabetical order, and it was resolved that in future they should be classified in the same manner as occupations in the Victorian census - the Farr classification. Even Hayter was partly defeated here. The Customs Department complained 'they would have to alter all their books'¹⁷¹ and Hayter used the Farr classification only in his summary tables in the **Year Book**.

The statisticians also recommended that the population census should be taken on the same day, and with the same schedules and compilation procedures as in the United Kingdom. In fact, the census was carried out on the same day, 3 April 1881, in almost every country in the British empire. But Hayter was bitter that New South Wales was the exception to the uniform compilation of census tables. The Hobart decision, being in general terms, had required further and more specific discussion. According to Hayter, New South Wales proved unco-operative while other colonies consulted and then followed the Victorian example. As a result the New South Wales tables 'especially those relating to the occupations of the people, differ widely from those of Victoria and the other colonies.'¹⁷²

In his Report, Hayter included an account of the methods used in his office to process the returns and compile the tables. One aspect of the account which is particularly interesting is Hayter's claim that the use of a card to record the details of each individual was a world first.¹⁷³ He was proud also of his 'mechanical appliances', which he used to save clerical labour.

I would particularly mention Edison's electric pen, which, as an instrument for multiplying copies of written documents, is perhaps unequalled; numbering machines of simple and correct action, specially made to the order of Messrs Semple and Ramsay of Melbourne; also a French calculating machine, designated L'

Arithmometre, by Thomas de Colmar of Paris.¹⁷⁴

The Victorian Year Book

The great reputation that Hayter established depended in part on the presentation of the Victorian statistics in the **Statistical Register**. More important was the production of an annual 'year book', consisting of summary tables of statistics with considerable comment. It was a venture which probably had not been attempted elsewhere in the world on an official basis. In Victoria, as we have seen, somewhat similar publications had appeared occasionally, but they were more of the nature of statistical histories of the colony. Moreover, from quite modest beginnings, the Year Book expanded in scope and original plan. It was so identified with the man,

that locally it 'Hayter's Year Book' or simply 'Hayter'. The **Year Book** had its origin in September 1874 'as a report upon the Statistical Register' made 'without instruction', to the Minister of Hayter's department.¹⁷⁵ What was he attempting?

. . . my first object will be to draw up such an analysis of the contents of the tables embraced in the several parts of the Statistics as may be of material assistance to persons whose business or inclination may lead them to consult that work.¹⁷⁶

But, he continued, since some people may not have the **Statistical Register** or may find it heavy going:

. . . it will also be my endeavour to make the Report as complete as possible in itself, and to that end I shall be obliged to quote somewhat largely from the figures embodied in the tables.¹⁷⁷

The report, with only slight modifications, was very quickly published as the Victorian **Year Book**.¹⁷⁸ In his preface, dated October 1874, Hayter gave the reason:

It was however, considered desirable by the Government that the information contained in the report should be disseminated somewhat largely, both in this colony and in Europe; and it wasn't that if the work were issued in a pamphlet or book form it would be more convenient for reference than if circulated on the large-sized and somewhat formidable looking pages upon which the Parliamentary Papers of this colony are printed.¹⁷⁹

With this encouragement, Hayter said he would produce a similar volume each year, and he proceeded to set out the philosophy that would guide him:

It will be my endeavour in this succession of volumes to record facts with correctness and impartiality to comment upon them only so far as may be necessary to elucidate them properly, to set up no theories except such as may be fairly deducible from the materials before me, and in drawing inferences, to exercise perfect fairness to all sections of the community. By keeping these points steadily in view I shall, I trust, be able to give to the world a series of publications which will be of service to persons of many aims and ends not only Australia but in the mother country and elsewhere.¹⁸⁰

The first issue of the **Year Book** contained 102 octavo pages of text which were further divided into 347 numbered paragraphs. It was firmly based on the statistics in the **Statistical Register** and subjects were classified in the same manner. Comment was simply the main drawing attention to the totals in the tables and comparing them with the Victorian figures for the previous year. In vital statistics, however, Victoria was compared with England and Wales, often over a ten year period. Apart from this exception it could be said that the **Year Book** was confined to two year periods with almost no international or inter-colonial comparisons. In succeeding years the scope future of the **Year Book** changed markedly. In 1874, to meet the needs for publicity at an international exhibition at Philadelphia, sections were added on discovery and history, geography, meteorology and climate.¹⁸¹ In 1875 a much more substantial change was made: figures for the other Australasian colonies were used 'for the purpose of affording means of judging of the progress, condition, resources and importance of each colony'.¹⁸² In 1877-78 the standard for comparison was widened.

. . . Statistical data, not only relating to Victoria and the other Australasian colonies, but also to other British dominions and foreign countries throughout the world. Such particulars, apart from the fact that they enhance the value of the work as one of general reference, are of great importance in showing the true position attained by this colony as compared with other portions of the civilised globe.¹⁸³

In the 1885-86 edition, Hayter indicated the wide range of official and non-official sources upon

which he drew. It is worth giving in full.

In compiling the work, free use has been made, as usual, of the tables published by the Imperial Board of Trade under the direction of Mr Robert Giffen; the Reports of the Agricultural Department of the Privy Council Office; the Reports of the Registrar-General of England, Scotland and Ireland; the Reports of the Deputy Master of the London Mint; and other Imperial official documents. Occasional extracts have also been made from **The Statesman's Year-Book** (now ably conducted by Mr J. Scott Keltie); **L'Almanach de Gotha**; **McCarty's Annual Statistician** (San Francisco); **Mulhall's Dictionary of Statistics**; **Kolb's Condition of Nations**; **The Statist and British Australasian** (London Journals); **The Transactions of the Statistical Societies of London and Paris**; that excellent Melbourne publication **The Australasian Insurance and Banking Record**; and other works.¹⁸⁴

As well as the expansion in coverage in the general body of the **Year Book**, substantial appendixes on various topics were added from time to time. All this meant a great increase in size: by the end of the 1880s it was published in two volumes and the 347 paragraphs of 1873 had become 1,749.¹⁸⁵

The **Year Book** brought Hayter international acclaim and international honours.¹⁸⁶ In the 1873 edition he had viewed his task as the straightforward, impartial presentation and description of statistics. In 1879 he expressed the task of a statistical department in similar terms.

I think the primary object of a Government Statistical department is to collect material for others to deal with. The function of a Statistical department is to write reports drawing attention to various matters, and instituting comparisons, but not to go deeply into the science of statistics.¹⁸⁷

Hayter largely succeeded in his purpose. But he showed little explicit recognition that no array of statistics is impartial, that every fact is a theory. Inevitably, since one object of the **Year Book** was to publicise Victoria overseas, especially to encourage migration and investment, comment in it emphasised the virtues of Victoria as against those of other colonies. Moreover, Hayter admitted that in the **Year Book** he had gone further than simple description - 'I draw inferences'.¹⁸⁸ In choosing areas for this, he was influenced both by his own competence and by prudence. He thought he had gone 'very fully' into vital statistics and crime¹⁸⁹ but as a 'Government officer' he should not argue the case of protection versus free trade.¹⁹⁰ He admitted that even the 'facts' could cause trouble.

Religious feeling runs high in Victoria, and I have shown that in some sects crime is much more prevalent than in others; that is, going a little beyond recording the facts.¹⁹¹

It was not only religious feeling that was sensitive in Australia. In the 1877-78 **Year Book**, the first to include statistics of other colonies, his facts showed that 'crime is much more prevalent in New South Wales than in Victoria'¹⁹² and he then moved on from description to explanation.

. . . the three colonies to which criminals were formerly transported, viz., New South Wales, Tasmania and Western Australia are, as will readily be supposed, those in which crime is more rife than in the remainder which have always been free from the convict taint.¹⁹³

To some extent Hayter's **Year Book** was a product of inter-colonial rivalry and competition.¹⁹⁴ Its success and prestige as a stimulating record of facts, not to mention the scope it gave for pressing Victoria's case, led to some resentment, especially in New South Wales. It was a major factor in encouraging that State to appoint its own statistician.

T. A COGHLAN

Born in Sydney in 1855, Timothy Coghlan was young to be appointed in 1886 as the first holder of the post of 'Government Statist of New South Wales'. The origin of the position lay in profound dissatisfaction with the quality and presentation of the New South Wales statistics, especially as compared with those of Victoria. In 1886 Henry Parkes summarised the background.

Some four or five years ago provision was made in the Appropriation Act for the salary of a government statist. Year after year we have had prepared a large volume of statistical tables - a very inconvenient volume, arranged in a very unscientific, not to say clumsy manner and the object of the provision in the Appropriation Act to which I refer was that we might get some officer who would give parliament and the country something like a lucid exposition growth of the colony. Every one must see what a great advantage it would be if we had that work properly done - that must be seen very clearly when we compare our so-called **Statistical Register** with the book which is issued in Victoria.¹⁹⁵

Finding a suitable person was difficult, and consideration was given to seeking out an Englishman. What the office required said George Dibbs, the Colonial Secretary, was 'a man of peculiar talents...'.¹⁹⁶ And certainly this is how Coghlan's qualifications were later to strike opponents of his appointment. Dibbs described him thus:

Mr Coghlan was assistant engineer in the Harbours and Rivers Department. He is a member of the Institute of Civil Engineers, and I am informed a good mathematician, and has some literary attainments.¹⁹⁷

Although his career as engineer had been most distinguished, there is little indication in the formal outline of his background of the qualities required of government statist. To explain his change of direction, Coghlan simply says he felt his calling was statistics and not engineering . . .¹⁹⁸ Dibbs maintained that Coghlan was the best applicant, but certainly Coghlan had been able to establish personal contact with Dibbs who, Coghlan said, 'adopted him as his protege'.¹⁹⁹ Perhaps to appease critic's he was appointed on probation for two years.

The selection of Coghlan (at almost twice his previous salary), the establishment of Statist's Office separate from the Registrar General and demands for economy, combined to make his appointment a short run cause celebre. It forced Dibbs' temporary resignation, and Coghlan says his first six months were "chaos" and that for most of the period five of his seven clerks remained unpaid.²⁰⁰ Immediately on his appointment Coghlan was sent to Melbourne to study 'the working of the Statistical Department...'.²⁰¹

In this background there is little to indicate that within a few years Coghlan would be acknowledged as a master statistician. He not only produced official statistics, he commented and analysed. Yet statistics were only part of his interests, and by the start of the 1890s he had emerged as an outstanding public servant and adviser to government on economic and financial matters.

In the statistical field, the rapidity with which he wrought changes in the official statistics is remarkable. Within eighteen months of his appointment, publications began to testify to his statistical ability and to his vision of New South Wales society and economy. The developments in New South Wales official statistics will be examined through their production in four channels: the **Statistical Register**; the census report; **The Wealth and Progress of New South Wales**; and **The Seven Colonies of Australasia**.

New South Wales Statistical Register

Coghlan inherited a **Statistical Register** which, in its basic structure had not changed since Rolleston had arranged the 1862 edition into six subject areas: Religion, Education and Crime; Trade and Commerce; Mills and Manufactures; Monetary and Financial; Production; Miscellaneous. The 214 foolscap pages of the 1862 issue had become 370 in 1885. Precedent seems to have ruled, while the **Statistical Register** grew in size; old categories remained and new statistics were pressed into the old framework. In effect, it had become a jumble of information.

The 1886 **Register**, the first to be issued from the office of the Government Statist, was transformed. Although it was only slightly larger in size than the 1885 volume and presented much the same statistics, what stands out was the systematic and orderly presentation of information. It is possible here only to highlight a few of the more obvious changes. The category Religion, Education and Crime (a remarkable group!) was divided into two - Education, Religion and Charities, and Crime and Civil Justice. In the latter, crime statistics were arranged logically and Civil Justice had been moved from Miscellaneous. In the section Population, Immigration and Vital Statistics there were much more detailed vital statistics, and the price and wage statistics were removed. In Trade and Commerce the listing of imports and exports remained alphabetical, but there was more commodity detail and grouping was under more obvious names. There was a complete reclassification of manufacturing industries. Monetary and Financial for the first time included tables of government revenue and expenditure.

1886 was the year of greatest change: later years built on this framework. The 1889 edition was produced as an octavo volume of 594 pages with the advice that since it contained statistics only, it 'should therefore be read in conjunction with the "Wealth and Progress of New South Wales"'.²⁰² Coghlan maintained the awkward octavo format and his last volume for 1904 reached 1,251 pages. By then, the eight section classification of 1886 had become fourteen with a number of sub-divisions. The great expansion reflected new material: there was, for instance, a section of 88 pages on industrial wages; but the growth also resulted from the desire for better and more detailed figures.

The new **Statistical Register** was well received. From the beginning of 1896 it appears not to have been completely under his direction; then, because of the pressure of other public service work, he reduced his statistical activities by giving up 'the immediate control of the compilation of the Statistical Register . . .'.²⁰³ Assessing the publication, Coghlan was well satisfied. He thought it had been 'recognised as, if not the best, amongst the best purely statistical registers published in any country'.²⁰⁴

The 1891 Census

For the 1891 census the colonies agreed on a common day, on a common core to the schedules and on the compilation of the returns on a uniform principle. This was an important achievement, and it meant that the major stumbling block for uniformity at the 1881 census, a common occupational classification, had been overcome. Agreement to use a common occupational classification in 1891 was significant, and not just because uniformity was desirable and the classification itself was an improvement on the old method. The new classification had been formulated by Coghlan and R.M. Johnston, The Tasmanian Statistician²⁰⁵, and had been opposed by Hayter. Its introduction symbolised the end of about forty years of statistical leadership from Victoria.

The occupational question was probably the most difficult one for the census-takers. Broadly speaking, the two main and related problems were to define occupations in an identifiable way and to classify them to permit useful conclusions. In 1851 in England, William Farr's occupational classification was adopted. It was based in the main on the materials used, because Farr, with

his interest in medical statistics, thought a workers materials were an important determinant of his health. In other words he saw the census as yielding significant information on occupational morbidity and mortality. As we have seen William Archer, straight from England and with his own actuarial background, adopted (with some modification) the Farr system for Victoria the 1854 census. Victoria maintained this system up to 1881, when all the except New South Wales, agreed to follow the Victorian system.

At the pre-census conference of colonial statisticians at Hobart in March 1890, with Hayter as president, Johnston and Coghlan were deputed to draw up an entirely new occupational classification. Their position had been strengthened by strong criticism in England of the Farr system, and the use by Scotland of its own method in 1871. In particular that undermined Hayter's position was the fact of England's partial departure from the Farr system at its 1881 census. The main change which was then made distinction between the 'occupied' and the 'unoccupied' population.²⁰⁶ In Hobart, Johnston developed his criticism of the Farr system along these lines:

. . . so far as minor groups or combinations are concerned this method was fairly successful, but as regards the principal classes of workers it could not form a guiding principle; for it is obvious all classes of workers must often be related to the self-same materials, and separation could not possibly be based successfully upon this method. It is therefore, that Dr Farr's classification should present many defects and anomalies. For example, Class II. - Domestic, and Class VI. - Indefinite and Non-productive, hopelessly mixed up Breadwinners and Dependants. Similarly, Primary Producers, Distributors, and Manufacturers were indifferently mixed together under three very distinct Classes - viz., Commercial, Class III; Agricultural and Pastoral, Class IV.; and Industrial, Class V. It is apparent that the lack of any clearly recognised principle for determining the limits great Classes themselves led the original Classifier into great perplexities; for we find **Fishermen, Veterinary Surgeon, and Farrier** grouped under Class **Agricultural and Pastoral**; **Chimney-sweep** grouped under workers in **Coal**; and the **Miner, Quarryman**, and other **Primary Producers** are found classed together with a moiety of the **Dealers**, along with **Night Soil Men, Artizans, and Manufacturers**.²⁰⁷

Coghlan much more aggressively, defended past practice in New South Wales, and attacked the Farr system and Hayter's use of it.

[In NSW in 1881] a very different system was adopted, which, though marked by many imperfections was a distinct improvement on all preceding attempts, and in many important particulars was superior to the pretentious classification adopted in the other colonies, which was merely a servile adaptation of the system employed at the previous English census.²⁰⁸

Moreover, he continued, Hayter's proposal to use the Farr system in 1891, would 'commit these colonies to the principle of remaining ten years behind the English compilers.'²⁰⁹

In drawing up their classification of occupations, Coghlan and Johnston were guided by some very general classificatory principles devised by Johnston²¹⁰ but more specific information is not available. They did not intend their classification to be used for medical purposes, but, in Johnston's words, to 'more fully meet the wants of the social economist and statesman . . .'.²¹¹ The result was, according to Coghlan, 'not based on any previous system, and if there was any such it was unknown to the Conference'.²¹² It consisted of seven classes divided into twenty-four orders and one hundred and nine sub-orders; sub-orders were divided into groups of occupations which were named at the conference, but whose adoption was left to individual statisticians.²¹³ To capture the essence of the change, Johnston's description of the main classes is set out below.

The amended Classification is divided into seven principal classes. The first six embrace all independent

Breadwinners; the seventh, or last class embracing all **Dependants**. The three important classes related to **Materials** are kept separate by regard to the relationship which their **differing services** bear to the materials which pass through their hands. Thus, Primary Producers of Raw Materials directly acquired by labour from natural sources, bring naturally into one class (Class V.) those engaged in Agriculture, Grazing, Fishing, Hunting, and Mining. Transporters, Dealers or Distributors, who effect no material change in Producers' materials, come naturally together in Class Commercial (Class III.); while all skilled, and unskilled modifiers or constructors of materials, in a similar way, come naturally together in Class Industrial (Class V.).

The Domestic Class (Class II.) no longer includes wives and others engaged at home in domestic duties for which no remuneration is paid, nor dependent relatives or children.

The Professional Class (Class I.) only includes those ministering to Religion, Charity, Education, Art, Science, and Amusement, and those connected with the General and Local Government, and in Defence, Law, and Protection.²¹⁴

Johnston did not mention the rather awkward but inevitable 'Class VI. - Indefinite', which consisted of 'persons whose occupations are undefined or unknown . . .'.²¹⁵

Of the Australian colonies, Queensland and Western Australia did not attend the Hobart conference, but all followed its recommendations concerning collection and compilation. The new classification of occupations was substantially followed at the first Commonwealth Census in 1911.

Coghlan made a General Report ('Illustrated with Maps and Diagrams') on the 1891 census of New South Wales.²¹⁶ It was the most comprehensive and longest (334 pages) statistical report on a census in the Australian colonies. It included an account of the taking of the census, but this was almost incidental to his analysis of the findings. The analysis was characterised by a strong historical emphasis, and in particular there was a masterly account of the growth of population in New South Wales since 1788. Thrown in was a chapter on the history of life tables and the construction of one for New South Wales. For good measure, the last chapter consisted of humorous anecdotes from the census.

A New South Wales Year Book

Coghlan's first **Year Book**, published in 1887, was entitled **The Wealth and Progress of New South Wales 1886-87**. It began a series with this title and produced by him of thirteen issues, the last being for the year 1900-01. The first paragraph of the first volume suggests both the historical approach adopted and an important impulse behind the work.

The following pages, which are designed to trace the progress of the Colony during the first century of its history, show that New South Wales maintains its position as the leading the Australasian Group.²¹⁷

Early progress, Coghlan continued, would be dealt with 'in the form of an historical sketch, But since the separation of Queensland in 1859, the period 'has been treated statistically'.²¹⁸

In the succeeding volume for 1887-88, Coghlan remarked on the 'uneventful' nature of Australasian history, so that 'the history of this continent is comprised almost entirely in that of its industrial progress'.²¹⁹ By implication, a **Year Book** such as his own, dealt with the essence of Australasian history. And, he continued, in explanation of the title of his series: 'To illustrate the wealth and trace the progress of the Colony is the aim of this volume . . .'.²²⁰ The list of contents in this issue, consisting of twenty three individual chapters, shows that Coghlan was able to deal with topics in a much more natural manner than Hayter. The Victorian *Year Book* was constructed in the same manner as the **Statistical Register**, so that topics were constrained into

eights groups Coghlan was able to devote eight chapters to the relatively unchanging of the broadly historical and geographical type, whereas Hayter combined this in a few sketchy pages.

In the fourth year of issue, 1889-90, Coghlan was able to make a significant change to method of presentation because of the production of a new companion volume.

The necessity of comparing the progress of New South Wales with that of the other Colonies, except on the most important points, is obviated by the publication of 'The Seven Colonies of Australasia which deals with the Colonies as a whole, as well as with their individual resources.'²²¹

Comparative material remained in the local volume, but emphasis could be placed very firmly on developments in New South Wales itself. Lacking the encyclopaedic comprehensiveness of Hayter's volume, the work seems more purposeful. In Coghlan's discussion of the statistics, there is of course a good deal of formal comment - a noting of the figures and a brief description of institutions. But the overall impression is of the authoritative handling of the material, as Coghlan shows himself to be historian, economist and a man of affairs in administration and politics. Take the example of one of Coghlan's central concerns. In 1888-89 begins a historical discussion of real wages through a focus on money wages and prices. In 1890-91 this becomes a seventeen page section of a new chapter headed 'Industrial Progress', which historically 'is naturally divided into eight periods, each with some distinguishing characteristic . . .'.²²² In 1894 'Industrial Progress' becomes 'Industrial History' and warrants a full chapter of sixty-three pages; it has now broadened, but its final thrust is still 'the condition of the workers'.²²³ What can be seen developing within the framework of the official **Year Book** is the genesis of Coghlan's great historical work, not published until 1918, **Labour and Industry in Australia**.²²⁴

Throughout the thirteen editions there was a massive accumulation of statistical information, with comment, about New South Wales. Information was broadened in scope and extended in time. Primary statistical material was moulded into such constructs as real wages, export price indexes and even estimates of the national income of New South Wales. It meant, of course, a great growth in size of **Wealth and Progress**. The 577 pages of 1886-87 had become 968 by 1892; in 1893 about one third more print was fitted to the page, and the 828 pages of that year grew to 1,043 by 1900-01 Coghlan gave New South Wales the **Year Book** it sought. The fourth issue was greeted by the **Sydney Morning Herald**:

The great statistical handbook of the Colony, which has now become invaluable as a book of reference . . . nearly 900 pages full of information upon every point relating to the material, physical, and moral welfare of the people of this colony...pages of interesting explanatory letterpress, by which the points brought out in the various tables quoted are emphasised in an instructive way.²²⁵

In Victoria, on the other hand, all was not well with the **Year Book** Hayter died in office in 1895 after some years of ill-health and financial problems, and economies meant it was a number of years before a new government statist was appointed; indeed, there was no issue of the **Year Book** between No. 21 of 1894 and No. 22 of 1895-98. In 1886 it was Parkes in the New South Wales parliament who had deplored his State's backwardness: in 1895 it was the turn of a Victorian parliamentarian.

He . . . believed the Government Statist of New South Wales was paid £800 a year, and, judged by the way in which he had managed his business, Mr. Coghlan had been worth £80,000 a year to New South Wales, because he had published works which had been most magnificent advertisements for that colony, just as in the olden times Mr. Hayter's publications did magnificent work for this colony. He . . . esteemed Mr. Hayter very much, but towards the end of that gentleman's career he did not retain his initial vigour, and there were defects in the **Year Book**

which ought to be remedied forthwith.²²⁶

An Australasian Year Book

Coghlan's decision to begin a new series of **Year Books** covering all the colonies has been noted. The first issue for 1890 was entitled **A Statistical Account of the Seven Colonies of Australasia**. The series, consisting of eleven editions, ended in 1902-03, the last two, in deference to the fact of Federation, being called **A Statistical Account of Australia and New Zealand**.

In the first issue Coghlan set out the purpose of the series.

To afford information by which the progress of these Colonies may be gauged is the object of the present work, which aims to exhibit at a glance the position held by each Colony individually, and by the country as a whole, with regard to all matters connected with its moral and material welfare. Such an account cannot fail to be of interest - so much has been attempted in directions in which old-world experience was of little avail, and so much has been accomplished in the development of the material resources of a new land, and the social well-being of its people.²²⁷

It was a smallish volume of 186 octavo pages in which the contents were divided, and the commentary made, in much the same way as in **Wealth and Progress**. There were also 'Concluding Remarks' which express the emotion and confidence of 1890.

Enough has been said, however, to show how these great Colonies, from the humblest beginnings, have grown and expanded into important provinces, peopled with a race of hardy, enterprising, and industrious colonists, with free institutions such as are enjoyed by few nations in the old world, and without those social and caste impediments which are in older countries so great a hindrance to the march of civilisation.²²⁸

Succeeding issues of this series reflect Coghlan's increasing knowledge and maturity in much the same way as did developments in **Wealth and Progress**. New topics were added and significant interpretative essays were built around the tables of figures in such areas as capital imports and land settlement. Inevitably, the size of the volume grew, reaching 543 pages by the seventh issue for 1897-98. The next issue for 1899-1900 with 836 pages was much larger: the imminence of Federation induced Coghlan to insert historical chapters on all the colonies. In the 1901-02 issue Coghlan began a chapter on the 'industrial progress' of Australasia. The final issue, dated 1 December 1904, was a voluminous 1,042 pages and included material on Federation Constitution. This was Coghlan's last **Year Book**: he left for England two months later. It could be seen as a monument to his work: a mass of statistical, coherently ordered and arranged, and always accompanied by authoritative discussion and interpretation, the end of the series left a gap which was only by the first Commonwealth **Year Book** in 1908.

CONCLUSION

It is not simply local pride and hyperbole that have judged the official statistics of the Australian colonies in the second half of the nineteenth century to be of the highest international quality, both in content and presentation.²²⁹ What may be thought surprising is to find such an achievement in colonies remote from the main stream of statistical development, recently settled and having just obtained self-government.

To a considerable extent the achievement was, for a number of reasons, a legacy of British colonial rule. First, the colonies had been required to produce official statistics on an annual basis; collection was not based on periodic censuses as in the United States. Second, the

statistics had to be of a range and quality to satisfy the British authorities, who required them for efficient administration. Third, the statistics brought together by a single officer, the local Colonial Secretary, who took some final responsibility for their accuracy and their presentation; there was therefore a central statistical authority and this contrasted markedly with the British position. Finally the authority was required to present all the relevant statistics of the colony in a single volume - the **Blue Book**. As an offshoot of these developments, it was natural for the colonies to begin the production of a consolidated volume of annual statistics for their own use.

Self Government meant the inheritance of a most favourable institutional arrangement. But adaptation and progress were not automatic: freedom and changed circumstances gave the opportunity for stagnation. That there was such a successful outcome on a number of factors, of which the most important was the discovery in this small community of three remarkable statisticians.

W. H. Archer, well-trained and fresh from the invigorating statistical climate of England arrived in Victoria in 1852 just as the public service was being shaped. Previously, the Colonial Secretary, as part of his numerous duties, had taken responsibility for the census, the **Blue Book** and the compilation of the statistics for local use. In the English tradition, it was probably inevitable that responsibility for the census would be given to the registrar General's Department, but Archer's presence led to that office taking over all the statistical work done by the Colonial Secretary. At the same time, the Registrar General set up a prestigious system of recording vital statistics began collecting more general statistics in his own right. In Victoria, then, central statistical control was continued, and Archer's status and authority gave the Registrar General the informal mantle of government statistician. His methods set the pace for the other colonies.

In 1874, in the newly-created post of Government Statist of Victoria, Henry Hayter had a more specialised role. He was no longer responsible for what was now the routine collection of vital statistics, but took charge of the census, the collection of a variety of statistics and the production of the **Statistical Register**. He maintained Victorian leadership in statistical standards, and added a new dimension to official statistical activities through the innovation of his famous **Year Book**, which publicised Victoria through informed comment on the statistics.

Colonial governments needed good statistics. There was also early recognition that the **Statistical Registers** could be used overseas in a manner which could encourage the flow of capital and migrants. Hayter's **Year Book** went a step further in that direction. In this situation inter-colonial rivalry and competition were important in ensuring some flow-on of best statistical practice. British pressure and the natural desire to harmonise census-taking also raised census standards. Inter-colonial rivalry was greatest between Victoria and New South Wales, and was a major factor in the establishment of the post of government statist in New South Wales. Timothy Coghlan was the first appointment in 1886, and as Hayter's innovations and drive were beginning to decline, Coghlan was able to build on Hayter's work. He improved dramatically the conventional array of statistics in the New South Wales **Statistical Register**, and he made important improvements in the census schedule. His most significant achievement in official statistics was through his **Year Books**. With imagination and vision he translated the tables of figures into an interpretative picture of his society, and this involved the formulation of statistical constructs out of the raw data. Not only was this done for New South Wales, it was also extended to meet the more complex challenge of Australasia. In their genre the works are classics.

Federation on 1 January 1901 had many implications for official statistics in Australia. In the short run, a new Commonwealth Statistician could draw on the output from the centralised statistical offices in the States. It would be a challenge, however, to maintain the progress that had been achieved by his distinguished colonial predecessors.

1. **Historical Records of Australia**, Series I, Vol I, pp. 11-12.
2. H.R.A. I,I, 14.
3. H.R.A. I,I, 15.
4. H.R.A. I,I, 52- 4.
5. H.R.A. I,I, 63.
6. H.R.A. I,I, 80.
7. H.R.A. I,I, 203.
8. H.R.A. I,I, 279-82.
9. H.R.A. I,I, 401-2.
10. H.R.A. I,I, 456.
11. *ibid*
12. H.R.A. I,I, 51.
13. H.R.A. I,I, 678.
14. *ibid*
15. H.R.A. I, II, 17.
16. H.R.A. I,II, 69.
17. H.R.A. I, III, 8.
18. T.A Coghlan **General Report on the Eleventh Census of New South Wales**, 1894, p. 48.
19. Coghlan, p. 51.
20. Coghlan, p. 60.
21. Coghlan, p. 62.
22. Coghlan, p. 68.
23. Coghlan, p. 69.
24. H.R.A. I, X, 380.
25. H.R.A. I, X, 533.
26. Coghlan, pp. 68-9 and **N.S.W, Blue Book**, 1828, p. 146.
27. H.R.A. I, I, 651.
28. *ibid*.
29. S.J. Butlin, **Foundation of the Australian Monetary System 1788-1851**, Melbourne, 1953 p. 48
30. H.R.A. I, III, 55.
31. See, e.g. H.R.A. I, II, 208-9.
32. H.R.A. I, II, 632.
33. H.R.A. I, X, 408.
34. H.T. Manning, **British Colonial Government After the American Revolution 1782-1820**, New Haven, 1935, p. 483.
35. R.W. Horton, **Exposition and Defence of Earl Bathurst's Administration of the Affairs of Canada when Colonial Secretary during the years 1822 to 1827, Inclusive**, London, 1838 p. 40. Horton was Under secretary of the department 1822-1827.
36. H.R.A. I, XV, 239.
37. H.R.A. I,XV, 411.
38. **British Parliamentary Papers** (H.C), XVII (129), 231-42.
39. **Colonial Office**, 324/104, Feb. 24, 1817.
40. H.R.A. I, XIV, 223.
41. C.O. 954/1, 113.
42. H.R.A. I, XI, 83.
43. H.R.A. I, XI, 244.
44. H.R.A. I, XI, 206.
45. H.R.A. I, XI, 552.
46. H.R.A. I, XI, 252.
47. H.R.A. I, XIV, 222-3.
48. H.R.A. I, XV, 69.
49. *ibid*.
50. **N.S.W. Blue Book**, 1828.
51. H.R.A. I, XVI, 99.

52. H.R.A. I, XVII, 194-5.
53. H.R.A. I, XX, 579-80.
54. H.R.A. I, XX, 753-4.
55. H.R.A. I, XXI, 188.
56. H.R.A. I, XXI, 316-7.
57. *ibid.*
58. H.R.A. I, XXI, 436.
59. H.R.A. I, XXII, 36.
60. H.R.A. I, XXII, 98.
61. H.R.A. I, XXVI, 701.
62. H.R.A. I, XXIII, 22-3.
63. C.O. 323/208, 72.
64. C.O. 323/208, 73.
65. C.O. 323/208, 74.
66. H.R.A., I, XVIII, 656-7.
67. H.R.A. I, XV, 69.
68. H.C. 1837, VII (516) p. 100.
69. *ibid.*, p. 194.
70. *ibid.*, p. 100.
71. **Statistical Register of N.S.W. from 1850 to 1859**, Registrar General's Report, p. 8.
72. N.S.W. Legislative Council, **Votes and Proceedings**, 1828, p. 43.
73. Government Notice: Census for the year 1828', reprinted in Coghlan, p. 71.
74. *ibid.*
75. R. Montgomery Martin F. S. S., **History of Australasia Comprising New South Wales, Van Diemen's island, Swan River, South Australia, etc.**, London, 1836, p. 134.
76. J.T. Danson, 'Some particulars of the Commercial Progress of the Colonial Dependencies of the United Kingdom, during the Twenty years, 1827-46', **Quarterly Journal of the Statistical Society of London**, November, 1849.
77. **N.S.W Blue Book**, 1828, p. 147.
78. Ralph Mansfield, **Analytical View of the Census of New South Wales for the Year 1841; With Tables Showing the Progress of the Population during the previous Twenty Years**, Sydney, 1841, p. 3.
79. Coghlan, p. 81.
80. *ibid.*, p. 85.
81. **Census of Victoria**, 1854, Population Tables, Report, p. vi.
82. *ibid.* p, iii.
83. *ibid.* p, v.
84. **Government Gazette of Western Australia**, Dec. 19, 1848, p. 1.
85. D. N. Allen, **The Development of Official Statistics in Tasmania** (Dissertation for Diploma of Public Administration, University of Tasmania, 1965), p. 46.
86. J. Koren (ed.), **The History of Statistics: Their Development and Progress in many Countries**, New York, 1918, Chapter by A. Baines, 'Great Britain and Ireland', p. 374.
87. *ibid.*, p. 385.
88. **Statistical Abstract for the United Kingdom in each Year from 1840 to 1853: First Number** (1854).
89. For a listing of the official publications, see Jennifer Finlayson, **Historical Statistics of Australia: A Select List of Official Sources**, Canberra, 1970.
90. Anyone researching in this or related fields must be grateful for the pioneering work of Crawford D. W. Goodwin, **Economic Enquiry in Australia**, Durham, N.C., 1966.
91. **Australian Dictionary of Biography**, Vol. 3, p. 41.
92. M. J. Cullen, **The Statistical Movement in Early Victorian Britain: The Foundations of Empirical Social Research**, Hassocks, Sussex, 1975, Preface. H. Westergaard refers to the period 1830-49 as 'The Era of Enthusiasm' in which 'the most conspicuous progress was made in England', p. 137 of **Contributions to the History of Statistics** (First Edition, 1932. Reprinted 1968 by Augustus M. Kelley, New York).

93. Cullen, **Statistical Movement**, p.93.
94. *ibid*, p. 102.
95. W.H. Archer Papers, National Library of Australia, MS 105/1, p.21.
96. This very gold of course has enabled us to **buy** (and I purposely put it in this vulgar but sound light) appropriate talent in every department of our Government', H. S.Chapman, (Attorney-General of Victoria , 1857-59) addressing the London Statistical Society. This statement immediately followed a reference to Archer. See The Industrial Progress of Victoria as connected with its Gold Mining'. **Journal of the Statistical Society of London**, 26, 1863, p. 426.
97. 16 Vic, No. 26.
98. **Report from the Select Committee of the Legislative Council on Agricultural and Horticultural Statistics**, 1856, p.20. Statistical Memoranda of Mr Assistant Register - General Archer.
99. Archer Papers, NLA, MS 105/3.
100. Written on the back of the first page of Archer's submission, dated 29 March and signed by the Colonial Secretary, *ibid*, MS 105/1.
101. *ibid*,MS 105/3.
102. *ibid*,MS 105/1 p.2.
103. Cited in **The Statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855**, p.112.
104. Archer Papers, NLA, MS 105/1, p.4. Here, as an example, are Archers comment on the proposed Births Schedule.
 1. The birth place of the parents is omitted.
 2. The marriage place of the parents is not given
 3. The number and sex of former children are omitted.
 4. The certificate of the Accoucheur, Nurse or other person present, is omitted.
 5. The place of registry is omitted. *ibid* p. 3.
105. *ibid*. M.S 105/1 p. 9.
106. *ibid*, M.S 105/3
107. *ibid*.
108. Archer's workbook headed "**Desiderata and Agenda**" *ibid* MS 105/5, 3 August 1853.
109. **Australian Dictionary of Biography**, Vol 3, p. 345.
110. Archer Papers, NLA, see e.g. MS 105/18.
111. **Report from the Select Committee of the Legislative Council on Agricultural and Horticultural Statistics**, 1856 Evidence of W.H Archer p. 2.
112. *ibid*. Archer could not always pick and choose. His problems are suggested by his assessment of one of his early selections.

He has much improved and evidently bestows great pains on them [the Registers] He has a prosperous Store, frequented by the people round about for miles. He is postmaster also; and has a horse upon which goes about in search of cases of birth etc. He is evidently very painstaking and desirous to succeed. The only objection, and a very serious one, is his bad spelling; but constant reference to a Dictionary and Gazetteer has already done much for him and provided he is well looked-after, I have considerable hopes that he may yet turn out well. There appears a difficulty in getting anyone more eligible in his neighbourhood in spite of his defects . . . His next return will enable us to decide what course to pursue.

Archer Papers, NLA, MS 264/15.
113. **Births, Deaths and Marriages in the Colony of Victoria During the Year Ending 30th June 1854**, First Annual Report, p.v.
114. Archer Papers NLA, MS 105/1 8, 30 Jan., 1854.
115. **The statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855**, p.121
116. **Statistical of the colony of Victoria for the Year 1852**, p. 5.
117. *ibid*.
118. Victorian Government Printer, 1854.
119. *ibid*. Preface. This was the only volume in the projected series. It could be regarded as a

forerunner of the '**Year Book**' developed later in the century, but it also bore strong resemblance to the almanac a form of annual publication very popular at the time.

120. **Statistics of the Colony of Victoria for the year 1853**, p.5.
121. **Births, Deaths and Marriages in the Colony of Victoria During the Year Ending 30th June 1854**, First Annual Report p.v.
122. **Statistics of the Victoria for the year 1854** p. 5. Report of the Registrar-General.
123. **Statistics of the Colony of Victoria for the Year 1855**, p. 111.
124. **Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 18-8**, Report, p. 8.
125. **Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 1863**, Report, p.v.
126. The optimistic 'Religious, Moral and Intellectual Progress' became 'Social Conditions' in 1886.
127. The Registrar-General's Department was divided into three branches. In 1858-59 the permanent staff of the Statistics Branch consisted of two clerks. Civil Service Commission, **Report of the Commissioners**, 1859, pp. 36-7.
128. **Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 1863**, pp. 112-13.
129. **Victoria, Parliamentary Debates**, Vol. 7, 1869, pp. 147-8, p. 892.
130. H. H. Hayter, 'The Colony of Victoria: Its Progress and Present Position', **Journal of the Statistical Society**, Vol. XLII, 1879, p. 404.
131. **Statistical Register of New South Wales**, 1858, Report, p. 1.
132. W. H. Archer Papers, University of Melbourne Archives, 2/169/3, Letter dated 30 August 1858.
133. *ibid.*, 2/169/4, Letter dated 31 January 1859.
134. **Statistical Register of New South Wales**, 1859, Report, p. 1.
135. *ibid.*
136. *ibid.*
137. *ibid.*, 1862, p. 36.
138. **Statistical Register of Queensland**, 1860, Report, p. v.
139. **Statistical Register of South Australia**, 1859, Report, p. iii.
140. *ibid.*
141. *ibid.*, 1860, pp. iii and iv.
142. *ibid.*, p. iii.
143. *ibid.*
144. Archer Papers, University of Melbourne Archives, 2/63/I. Archer to Farr, 17 August 1859.
145. **Statistical Register of South Australia**, 1861, Report, p. iii.
146. Australian Statistical Conference held in Melbourne, 1861. Minutes. No report of the meeting has been found. The above is based on what appears to be a shorthand record. The South Australian representative later quoted Archer with approval: 'It would be premature for me to enter on a description of our proposed future publications; but I may mention, that henceforth the Statistic Year Books of New South Wales, South Australia, Queensland, and Victoria will, in the main, accord in their grouping . . .'. (**Statistical Register of South Australia**, 1861, Report, p. iii.) Archer's intention is presumably reflected in the arrangement of consents in the Victorian **Statistics** for 1861.
147. **Census of Victoria**, 1854, Population Tables, Report, p. v.
148. *ibid.*, p. iii.
149. *ibid.*
150. *ibid.*, 1857, Population Tables, Report, *passim*.
151. Archer Papers, University of Melbourne Archives, 2/63/1. Letter to W. Farr dated 17 August 1859. See also **Statistical Register of New South Wales**, 1858, Report, p. 29; **Census of Victoria**, 1857, Population Tables, Report, p. 7.
152. **Census of the Province of South Australia**, 1861, Report, p. v.
153. *ibid.*, p xi.
154. Archer Papers, NLA, MS 105/5, 3 August 1853. This is Archer's recollection of the

governor's words.

155. Farr Collection, Vol. 1. Item 5, folios 8-9. (Held at British Library of Political and Economic Science.)
156. Official Statistics Committee, **British Parliamentary Papers** (H.C.), 1881, Vol. XXX. Minutes of Evidence, Evidence of H. H. Hayter, 7 April 1879, paras. 968-9.
157. W. H. Archer, **The Progress of Victoria: A Statistical Essay**, 1873, p. 3
158. **Australian Dictionary of Biography**, Vol. 4, pp. 366-7.
159. His report may be seen in **Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March, 1859**. Report.
160. Hayter's words. See **Official Statistics**, p. 22. Presidential Address, Section F, Australasian Association for the Advancement of Science, 1888.
161. **Victoria, Parliamentary Debates**, Vol. 18, 1874, p. 336.
162. Official Statistics Committee. . , Evidence of H. H. Hayter, **passim**.
163. *ibid.*, paras 955-7.
164. *ibid.*, Third Report, p. xviii.
165. *ibid.*
166. Hayter listed together the five continental colonies separately from the two island colonies of Tasmania and New Zealand. 'Australasian Statistics for the Year 1873.'
167. *ibid.*, p.7
168. *ibid.*, p.8.
169. Victoria, **Report of the Conference of Government Statists**, 1875.
170. Official Statistics Committee . . . Evidence of H. H. Hayter, para. 967.
171. *ibid.*, para. 924.
172. **Census of Victoria**, 1881, General Report, p. 10.
173. Apparently it was used in Bavaria in 1871, **Census of the Commonwealth of Australia**, 1911, Statistician's Report p.15
174. **Census of Victoria**, 1881, General Report, p. 12.
175. Official Statistics Committee . . . , Evidence of H. H. Hayter, para. 973.
176. **Statistics of the Colony of Victoria for the Year 1873**, Report, p. 7.
177. *ibid.*
178. **Victorian Year Book Containing a Digest of the Statistics of the Colony for the Year 1873** by Henry Heylan Hayter.
179. *ibid.*, Preface, p. iii
180. *ibid.*, pp.iii - iv
181. **Victorian Year Book**, 1874, Preface.
182. *ibid.* 1875, Preface, p. iii.
183. 1877-78, Preface, p. iii.
184. 1885-86. Preface, p. iv.
185. *idid.*, 1889-90.
186. William Newmarch reviewed the 1878 edition at a meeting of the Statistical Society in London. His view was summarised thus:
The handbook is almost a perfect model of what such a publication should be. The contents are most carefully classified according to subjects, and the tabular details are arranged scientifically and skilfully. There is also as much descriptive discussion as is required to bring out the true bearing of the figures. The speaker said it had been his painful duty to examine handbooks, official and otherwise, and to be afflicted by the careless and unskilful manner in which they were framed. But Mr. Hayter's work, on the contrary, was not marked by any of these defects, and Mr. Newmarch would go so far as to say, that the statistical department of the Imperial Government might with advantage follow to a large extent in Mr. Hayter's steps, and profit by his example.
Journal of the Statistical Society, Vol. XLI, 1878, p. 160.
187. Official Statistics Committee . . . , Evidence of H. H. Hayter, para. 1096.
188. *ibid.*, para 1098.
189. *ibid.*, para. 1102.
190. *ibid.*, para. 1100.

191. *ibid.*, para. 1103.
192. **Victorian Year Book**, 1877-78, para. 563.
193. *ibid.*, para. 565. The Tasmanian statist commented on a table of Hayter's which showed crude death rates in five Australian capital cities: '... it is natural for ordinary persons to conclude that this is a record or index of the comparative health of these cities; and if it be not so they may well exclaim, for what other purpose are they shown?' Age standardisation, said the Tasmanian statist, changed Hobart's position from the highest to the lowest death rate. **Statistics of the Colony of Tasmania**, 1887, Report, p. xxvi.
194. Hayter was free with his criticisms, usually justified, of statistics in other colonies. Sometimes there were problems with his own calculations. For instance, in estimating the value of private wealth in Victoria, took 'the average amount left by each person dying [as] equivalent to the average amount possessed by each person living'. There are obvious problems here apart from Hayter noticing that his most recent figures were probably affected by 'several large estates'. **Victorian Year Book**, 1888-89, para. 911.
195. **N.S.W. Parliamentary Debates**, Vol. 20, 1885-86, p. 2557. Parkes was a dominating figure in New South Wales politics and five times Premier of that State.
196. *ibid.*, p. 2558.
197. *ibid.*, Vol. 21, p. 3374.
198. From document headed 'Autobiography of my father, the late Sir Timothy Coghlan, I.S.O., K.C.M.G. copied by me from his manuscript. Austin Coghlan', p. 2. (Coghlan Papers, National Library of Australia, MS6335.)
199. *ibid.*, p. 3.
200. *ibid.*
201. **N.S. W. Parliamentary Debates**, Vol. 21, 1885-86, p. 3374. Statement by George Dibbs.
202. **Statistical Register of New South Wales**, 1889, Preface.
203. 'Autobiography', p. 8.
204. *ibid.*
205. R. M. Johnston was Tasmanian statistician and registrar general from 1882 to 1918. He was a most productive and original worker in both the natural and social sciences. Although he made a number of contributions to the development of official statistics, his wide range of interests and his self-chosen, relative isolation in Tasmania meant that he stood slightly out of the main stream of influence.
206. The largest group affected by the new classification was wives. For a discussion of the reasons for the classification of women in censuses in Australia and England, see Desley Deacon, 'Political Arithmetic: The Woman', **Signs: Journal of Women in Culture and Society**, Autumn 1985, Vol. II, No. 1. Also, F.L. Jones, 'Is it True What They Said About Women: The Census 1801-1911, and Women in the Economy', **Working Papers in Economic History**, Australian National University, No. 23, May 1984.
207. **Covering Letter Accompanying Report of Conference of Statists**, 19 March 1890, p. iii.
208. **N.S. W., Census of 1891**, Statistician's Report, p. 270.
209. *ibid.*
210. *ibid.*, pp. 27 1-2.
211. **Covering Letter** . . . , p. iv.
212. **N.S.W., Census of 1891**, Statistician's Report, p. 270. Coghlan claimed that the new scheme 'was called in European economic circles the Australian System'. 'Autobiography', p. 11.
213. **N.S. W., Census of 1891**, Statisticians's Report, p. 273.
214. **Covering Letter** . . . , p. iv.
215. *ibid.*, p. xvii.
216. **General Report on the Eleventh Census of New South Wales**, 1894.
217. **The Wealth and Progress of New South Wales, 1886-87**, Preface.
218. *ibid.*
219. **The Wealth and Progress of New South Wales, 1887-88**, Preface.
220. *ibid.* Coghlan says he submitted 'seven or eight names' as possible titles for his year book to the Premier, Sir Henry Parkes, who made the final choice. 'Autobiography', p. 3.

221. **The Wealth and Progress of New South Wales, 1889-90**, Preface.
222. **The Wealth and Progress of New South Wales, 1890-91**, p. 676.
223. **The Wealth and Progress of New South Wales, 1894**, p. 457.
224. Oxford University Press, 1918.
225. **Sydney Morning Herald**, 8 December 1891, p. 5.
226. **Victoria, Parliamentary Debates**, Vol. LXXVIII, 1895-6, p. 2301, Mr. Rogers.
227. **A Statistical Account of the Seven Colonies of Australasia**, 1890, Preface.
228. *ibid.*, p. 179.
229. P. W. Arndt claims that Coghlan 'made New South Wales for a time the country with the best official statistics in the world'. See 'A Pioneer of National Income Estimates', **Economic Journal**, December 1949, p. 616. More generally, N. G. Butlin writes: 'Few, if any, countries in the world can claim to possess official statistics comparable to those of Australia during the years 1861-1939'. See **Australian Domestic Product, Investment and Foreign Borrowing 1861-1938/39**, Cambridge, 1962, p. xv.

PART III: STATISTICS FOR THE NEW NATION

STEPS TOWARDS UNIFORMITY

At the beginning of the Commonwealth period, the six States were spending a total of about £18,000 a year on statistical work, of which £2,000 was for the tabulation of vital statistics. The costs associated with decennial censuses were additional as were those of printing, stationery, postage, and telegrams. In a report prepared at the request of the federal government in April 1903, Timothy Coghlan estimated that the States spent between 0.76 pence and 2.82 pence per inhabitant on statistics. The cost comparison alone was of minimal value, as Coghlan pointed out, since the range of statistics covered varied significantly. In some States, 'even statistics relating to the greater primary industries and to Manufactures are neglected or imperfectly collected and presented'.¹

While colonial statisticians, particularly Coghlan and R. M. Johnston, had played notable parts in the federation debates as financial experts, national responsibility for censuses and official statistical compilation was not a subject of controversy.² Federation could be seen as a step towards the elusive goal of statistical uniformity. Some statisticians saw advantages in the prospect of a national statistical authority that might lend its weight to the decisions of the professional conferences which had become the recognised forum for co-ordination. No one disputed that the new nation should have both a responsibility and a capacity to undertake statistical inquiry.

Sir Samuel Griffiths' drafting committee at the National Australasian Convention in March 1891 produced a draft constitution Bill in which Chapter 1 Part V sub-section 12 was to give the Commonwealth the power to make laws in respect of census and statistics. The words 'census and statistics' appear to have come directly from the British North America Act Section 91 sub-section 6.³ There was no debate on this issue and the Australasian Federal Convention in 1897-98 accepted the sub-clause from the Commonwealth Bill of 1891 again without debate. Under Section 51 (xi) of the Constitution, the Commonwealth Parliament was given a concurrent power to make laws with respect to census and statistics. It was not immediately apparent how this power might be exercised. Later events were to suggest that little thought had been given to how the statistical interests of the States and Commonwealth could best be served in the new era.

The first major statistical business of the twentieth century was the 1901 Census. In March 1900 a conference of statisticians, including a representative from New Zealand, was held in Sydney to

arrange for the uniform collection of the 1901 Census. Coghlan, as president of the conference, reported to Lyne, Premier and Treasurer of New South Wales, that the conference broke up into three sub-committees: the first to deal with drawing up a uniform householders' schedule; the second to revise the classifications of occupations; and the third to draw up the reasons which led the conference to recommend 28 April as the day for taking the Census.

It was decided that there would be only one question additional to those asked in 1891. It related to the length of residence for those not born in the particular colony. The reasons for not expanding the Census further were explained by Coghlan:

There were several suggestions for increasing the number of questions to be asked of the people, but the majority of the members of the Conference were of the opinion that it would be unwise to extend the inquiries beyond the class of subjects usually presented in countries where the census is taken upon schedules. If, as in some countries, the plan were adopted of appointing enumerators whose business it would be to make personal inquiry from house to house, and fill up their books from the particulars thus obtained much more elaborate inquiries might be ventured upon.

The conference decided not to change any of the classifications and to accept those drawn up by Johnston and Coghlan in 1890:

The experience of ten years has suggested a few changes, but these are all of a minor character, such as may be looked for in the, development of the population and industries of a young community.

A number of the colonies had proposed incorporating with the householders schedule a return relating to land and crops. But this proposal was not adopted. Most of the figures were in any case available in the colonies on an annual basis; and it was contended that the census was not the most opportune time for pursuing investigations relating to land and industries. Coghlan put certain resolutions to the conference regarding uniformity which

. . . if strictly adhered to, will ensure the possibility of exact comparison being drawn between the conditions of the various colonies. . . They consider that uniformity is especially desirable at the present time, when five of the colonies are about to enter upon a federation, as there is every probability that the figures obtained in the coming Census will form the first population statistics of the Commonwealth, and be the basis of many important arrangements in regard to finance and electoral representation.⁴

The actual date of the census also had to be settled. The night of the first Sunday in April had been the usual time of census taking, but in 1901 the first Sunday in April was Easter Sunday.

The effect of taking a Census at a time of general migration like Easter would be to enumerate the population in places in which they do not usually reside, and to increase unduly the population of some localities at the expense of others. The result would be utterly misleading so far as localising the population, and would also affect the number of males resident in given areas.⁵

The choice of April 28, though a departure from the imperial census, would give people time to settle down after holidays and after harvesting.

From the outset it was clear that generally accepted population figures would be essential as a basis for apportioning payments to or for the States. In September 1901 the Prime Minister wrote to all State Premiers asking if they were willing to use figures supplied by the Victorian Government Statistician for the purpose of calculating the future distribution of 'other' new expenditure. Alone of the respondents, New South Wales proposed a different approach. They would prefer to include half-castes in the figure for their State, bringing the total to 1,356,090.⁶

Another conference of statisticians was held in Hobart in January 1902; it was called specifically to look at uniformity in preparation of statistical returns. All the States except Western Australia

were present and a representative from New Zealand also attended. This conference had been proposed by Coghlan in a letter to Johnston on 25 June 1901:

I have long considered it would be extremely desirable that the statistics of the States should be placed upon a uniform basis . . . Such uniformity is all the more desirable, since the Statistics of Australia (now that the States have accomplished Federation) will be quoted as for the Commonwealth, and not for the individual States . A year or two ago I arrived at an understanding with Mr Fenton of Victoria as to the compilation of statistics relating to Manufacturers and Works, and I see no insuperable difficulties in placing the statistics relating to Education, Law and Crime, Public Finance, Land Settlement, Agriculture, Vital Statistics, and so forth, upon a uniform basis throughout the six Colonies.⁷

In his letter inviting the various State Premiers to send a statistician to the proposed conference, N. E. Lewis, Premier of Tasmania, said that besides the question of uniformity there was a need for a conference:

To advise upon all matters where dual functions of Commonwealth and States respectively may be carried out by the same machinery in the various branches of State Bureaux. For example the whole question of the dual relationship, organization etc., between State and Commonwealth must be carefully gone into so that no confusion may arise, as would be the case if a double set of machinery were employed in collecting statistical and other matters in the same region.⁸

The report of the conference dealt with the need for a 'harmonious relationship' to be established between the various State bureaus and the soon to be formed Commonwealth Bureau:

Having devoted some considerable thought to this important matter of the harmonious relationship . . . it is the general opinion among the members of the Conference that the whole work of collection of the materials of statistics, whether for State or Commonwealth, had better be deputed to the officers of the several State Bureaux of Statistics. This would avoid confusion and extra expense such as would surely arise if double machinery were employed upon the same statistics within the same region; that is the local State officers would be charged with dual functions. As officers of the State, they would be under the direction and discharge the functions which they now carry out for the State. In addition they, co-operating with the Central Bureau of the Commonwealth, could prepare all statistics required in a more concentrated form for the publications of the Commonwealth, of course, under a definite agreement between the respective Governments of State and Commonwealth.⁹

Prior to Federation, the statistics of commerce and shipping were a major part of the work done in each colonial statistical office. Federation had taken from the States their largest source of revenue - the right to levy customs and excise duties. But, after protracted negotiation on principles and procedures, it had been agreed that, for ten years after the determination of a uniform tariff, at least three quarters of the revenue collected by the Commonwealth would be returned to the States. A 'book-keeping system' was devised which kept an account of the destination of all dutiable goods entering the country and each State was to be credited with the revenue deemed to have accrued from goods destined for consumption within its boundaries. Principles of classification were agreed at the Hobart meeting to facilitate the compilation of statistics on a comparable basis. But the classification scheme was not in fact followed by the State bureaus.¹⁰ Although the Commonwealth was to turn to Coghlan for advice, the categorisation of items in trade and customs statistics was to be a recurring problem for which the Commonwealth authorities had no great enthusiasm.

The other important financial loss for the States resulted from the transfer of postal administration to the Commonwealth. Except in South Australia, all statistical returns were carried free of postage charges. The conference strongly recommended:

the retention of the free franking system for the transmission of public business communication in connection with the State Statistical and Registry Department.

There were a number of other recommendations:

- (1) That the conference recognises the necessity for recording all persons engaged in industrial pursuits or attending school in Census enumeration, including aborigines.
- (2) That, as the 5,137 aborigines included in the Queensland Census are engaged in industrial pursuits, or attending schools subsidised by the Government, they should be included in the general population for all purposes except those relating to the Commonwealth.
- (3) That, owing to the difficulty of estimating the numbers of the people at long intervals, it is desirable to take an intermediate Census five years after each general Census - showing at least the Names, Sexes and Ages of the people, and distinguishing Chinese and other coloured Races, so that it may be possible to separate them from the general population, if thought desirable.
- (4) That, in the opinion of this Conference, it is desirable that legislative authority be provided in any State of the Commonwealth not yet possessing permanent Census and Statistics Acts, so as to enable needful information to be efficiently collected. ¹¹

The treatment of Aboriginal people was to be a recurring issue and the concept of a quinquennial census was to be urged without success for another half century.

Concerned at the absence of uniformity in estimating the population of the States, Coghlan decided the New South Wales Premier, Sir John See, to suggest another conference in 1903. Coghlan and the other five State statisticians agreed on a uniform basis for estimating the population, with Coghlan apparently the chief architect the reforms. The Census of 1901 was taken as the starting point. Various percentages were to be added to the individual States, allowing for unrecorded departures by land, sea or rail. Population figures were henceforth to be published quarterly on a uniform basis and the mean of the four quarters was to be taken as the mean population for the year. The population statistics had a special significance in the context of federal state financial relationships. Up to 30 June 1910 all 'new' Commonwealth expenditure was debited to the States according to their population. Thereafter payments to the States were also based on population. Moreover, the number of members of the House of Representatives was dependent on population calculated so as to exclude Aborigines and aliens disqualified from voting by State electoral laws. In determining the population of the various States as at 30 June 1902 full blooded Aborigines were excluded of was dependent on population calculated so as to exclude but the numbers were to be shown on a separate line in the various estimates.

CREATING A NATIONAL ORGANISATION

While the Constitution gave the Commonwealth a concurrent power over census and statistics, the qualified enthusiasm of the States made it by no means certain what this would mean in practice. Federal Cabinet decided in March 1903 that the Minister for Home Affairs, Sir William Lyne, should ask Coghlan to advise on the 'probable extent and costs' of establishing a federal bureau of statistics. Coghlan incorporated in his report the view's of his colleagues, J.J. Fenton (Victoria), J.Hughes (Queensland), L.H. Sholl (South Australia), M.A.C. Fraser (Western Australia) and R.M. Johnston (Tasmania). All had been asked:

Do you consider it will be necessary or desirable to maintain a State Statistical office after the establishment of a Federal Bureau, supposing the latter to be on an entirely efficient basis?

So blatantly contrived a question unsurprisingly elicited a unanimous declaration in the affirmative. Coghlan's conclusion was that however matters were arranged there would remain with the States important work connected with vital statistics, land, labour, and licensing laws, public and private charities, 'and other subjects connected with the social and industrial well-being of the community, and in regard to which State Parliament have the rights of legislation'.¹²

The Commonwealth intention to set up a body that would in some respects at least supersede or pre-empt the States receive little encouragement from Coghlan's peers. In a report written on 4 April 1903, R.M. Johnston made plain his belief that a federal bureau 'could not possibly be established on an entirely efficient basis without the aid of auxiliary subordinate local Statistical Bureaus in each independent State'. Nevertheless the plan urged by both the Federal Government and the Governments of New South Wales and Victoria at the 1905 Premiers' Conference in Hobart was to create a federal department and abolish State offices.¹³ In the meantime Coghlan had been engaged to shape the statistical branch of the Customs Department with the intention of developing a model organisation that would be adopted for other federal departments. It seems to have been envisaged that these departmental offices would be linked under a central bureau. Coghlan also supervised the preparation of the Commonwealth Trade and Commerce Returns for 1903 and 1904.

In March 1904 Coghlan was offered the position of federal statistician. He declined the post. According to his own autobiographical account, 'on pointing out the difficulties surrounding the establishment of a Statistical Office to Sir William Lyne, provisional arrangement was made, under which he agreed to prepare yearly an edition of the "Seven Colonies"'.¹⁴ The offer was renewed by George Reid later in the year. But Coghlan had decided to go to London in response to the urging of the New South Wales Premier, J. H. Carruthers, who was anxious to re-organise the work of the Agent General's Office. Coghlan had shown no enthusiasm for an earlier proposal Carruthers that he fill the specially created post of Financial Adviser to the New South Wales Treasury. Believing that the London appointment was only temporary, Reid agreed to defer the establishment of the new bureau until Coghlan's return.

In fact, Coghlan was already turning to fresh fields. He told friends that he was concerned about his pension rights if he 'threw over my own Government'. But he also aspired to be Australia's first High Commissioner, seeing in that post the chance to "make Australia hum".¹⁵ It was not until the Commonwealth census and statistics enacted that Coghlan finally advised Deakin not to consider him further for the post of Commonwealth Statistician. Carruthers was unwilling to release him pending completion of 'financial transactions' on behalf of New South Wales and had suggested that he accept the position on condition that he be allowed to take it up after the appointment of a High Commissioner had been made.¹⁶

Coghlan deliberately did not discuss his London ambition with Deakin, having already disclosed it to Sir John Forrest only to discover that Forrest also coveted the post. But Coghlan's temporising and ambivalence were ultimately self-defeating. He was never a serious contender for a job that was to be ornamented by a succession of ex-Prime Ministers. And his self-serving lament about the absence of qualified rivals for the Statistician's post did not deter the government from proceeding to make an appointment from the available candidates. Littleton Groom, the Minister for Home Affairs had been willing to pay Coghlan £1,200 a year, but the position was eventually advertised an annual salary of £800 to £1,000.¹⁷

In February 1905 a conference of Commonwealth and State Ministers was held in Hobart and Sir George Turner, the federal Treasurer, pointed out that the States were spending about £20,000 a year on statistics, and £120,000 every ten years on the census. Prime Minister Reid, in referring to various powers, including that of legislating on census and statistics, said:

We want to explain that the Commonwealth proposes to take over these departments. But, in as they are State departments and departments transacting business with the public, we want to take them over with due consideration, in order to avoid dislocation, and little inconvenience as possible to the public . . . We will therefore invite the State Governments to co-operate and help us exercise these powers in the most convenient way.

J.G. Jenkin, the Premier of South Australia, stated that:

Under the heading of census and statistics we know that means the employment of a good many State officials to get the information. I hope it is not the intention to establish a complete new department of Federal officers to carry out the work. If it means that it will be an expensive luxury.

Allan McLean, the Minister for Trade and Customs, replied:

It is not intended to do that in connection with any service taken over. We desire to take over such services as are included in our constitutional powers, and which can be better managed by one central department.¹⁸

The Census and Statistics Bill was introduced into the House of Representatives by the Minister of Home Affairs, Littleton Groom, on 23 August 1905. His second reading speech noted that the Commonwealth power in relation to census and statistics was a concurrent power. He went on to say:

The object of the Bill is to enable the Commonwealth to establish a central bureau of statistics in order that it may furnish to the world statistical returns with respect to the matters under its special jurisdiction, and also publish certain statistics having reference to the affairs of Australia as a whole.

Even though a central office with a Commonwealth Statistician was to be established the States were still to retain their own offices and officers.

We start on the assumption that the States will require to have their own local statistics for their own purposes . . . I think it would be advantageous for them to have one Commonwealth department; but judging from the tone of replies received from them I am inclined to think that some negotiations will be required before they will be prepared to hand over their own departments.

Groom explained that there were two possible courses:

We might have a central statistical bureau with branches in each of the six States; which could be used for State purposes as required. As an alternative we could establish a central Commonwealth bureau and enter into negotiations with the various States with a view to utilising their departments to the fullest possible extent. During the early stages of the organisation of the Commonwealth departments the latter will be found to be the most practical course to pursue.

The reason for a centralised Bureau was given as a need to:

bring into line the statistics of the States for the purpose of comparison, to lay down a uniform method for the collection of statistics.

In addition:

The central department will collect all information in regard to subjects specially controlled by the Commonwealth, such as imports and exports, trade, and commerce generally including inter-State transactions, navigation and shipping, postal, defence and other matters.¹⁹

It would remain a power of the States to collect their own census data. But the proposed Commonwealth census would be decennial and would rely on a parliamentary appropriation.

When the debate resumed on 3 October 1905 the Bill was closely scrutinised. In the Senate the clause dealing with free postage, which had attracted much attention at the 1903 Conference of Statisticians in Hobart, was deleted. It was also argued unsuccessfully that the census schedule should be approved by Parliament before it could be distributed. The Census and Statistics Act was assented to on 8 December 1905. Part II of the Act dealt with the appointment and powers of the Statistician, arrangements with the States for collection of data, and secrecy provisions.

Part III related to the taking of the census. The first census under the new Act was to be taken in 1911. Part IV of the Act covered statistics and laid down the areas where the Statistician was to have authority:

16. The Statistician shall subject to the regulations and the directions of the Minister, collect, annually, statistics in relation to all or any of the following matters:

- (a) Population;
- (b) Vital, social, and industrial matters;
- (c) Employment and non-employment;
- (d) Imports and exports;
- (e) Interstate trade;
- (f) Postal and telegraphic matters;
- (g) Factories, mines and productive industries generally;
- (h) Agricultural, horticultural, viticultural, dairying, and pastoral industries;
- (i) Banking, insurance, and finance;
- (j) Railways, tramways, shipping, and transport;
- (k) Land tenure and occupancy;
- (l) Any other prescribed matters.

The Statistician was given wide powers. He was able at any time during working hours to enter any factory, mine, workshop, or place where persons were employed to make inquiries or inspect all plant and machinery. The penalty for hindering an officer under this section of the Act was ten pounds. Penalties for supplying false information or failure to supply information were also prescribed. A severe penalty of fifty pounds applied to any officer of the Bureau who divulged the contents of any forms or any information furnished to the Bureau.²⁰

At a conference of State and Commonwealth Ministers in Sydney in April 1906 it was resolved 'that the general statistical departments should be handed over to the Commonwealth'. Meanwhile, the position of Commonwealth Statistician had been advertised in the **Commonwealth of Australia Gazette** on 24 February 1906. 'I wish I could see someone fitted for the post in the service of the Commonwealth or of the States', Coghlan intimated to Deakin. 'The only man of ready talent fit for the work is a young man named H. A. Smith in my office in Sydney.'²¹

Smith was chief compiler in the vital statistics branch of the New South Wales Statistician's Office but manifestly too junior, notwithstanding Coghlan's lukewarm patronage, for the federal appointment. In 1919 he became New South Wales Statistician. R. M. Johnston, at 62, declined to be a candidate for a position that would take him away from Tasmania. But George Handley Knibbs was deemed suitable. His appointment, at a salary of £1,000 a year was announced in the *Gazette* on 26 May 1906. Knibbs, born in Sydney in 1858, and formerly a surveyor and lecturer in the engineering school at Sydney University, had been president of the Institution of Surveyors 1892-93 and 1900-01, honorary secretary of the Royal Society of New South Wales for nine years and president in 1898-99. He was co-author of a report on education prepared for the New South Wales Government after an overseas study done in 1902-03 and was appointed Director of Technical Education in New South Wales early in 1906, following a brief period as Acting Professor of Physics at Sydney. Although he had been in 1887 a foundation member (with Coghlan and Hayter) of the Australian Economic Association, whose second but unfulfilled object had been the compilation of a statistical history of the various Australian colonies, Knibbs had hitherto had little direct involvement in the kind of official statistical work for which he was to be responsible.²²

Sir William Lyne, whom Groom consulted about Knibbs, reported that 'he used to be a very bitter opponent and writer to the press, always against our party'. But Knibbs had 'been for some time

past rather reasonable' Lyne admitted. 'I know nothing against him,' the Minister for Trade and Customs concluded, 'and probably he would make a very good man.'²³

In an early private assessment of the Commonwealth Statistician Coghlan had commented:

Knibbs will have a very uphill job. As at present situated he can do his work only thru' the State Offices, and he will speedily find himself in difficulties for lack of information. He has great abilities and attainments, but his lack of acquaintance with the technique and presentation of statistics are great obstacles to success, but of all the applicants he was certainly the best.²⁴

Writing to Alfred Deakin, Coghlan conceded that the 'appointment of Mr Knibbs should carry with it a good share of support in the States'. But the praise that followed was obtrusively faint. 'Mr Knibbs has high mathematical attainments, he is earnest, hardworking and scrupulously honest but he must be given experienced assistants, a knowledge of the technique of statistics is absolutely essential to even moderately good work.'²⁵ A few months later another friend was invited to tell Coghlan 'how Knibbs is shaping - badly, I should say, every man whom I discarded as worthless seems to have got into Knibbs' good graces'.²⁶

Those who had most conspicuously got into Knibbs' good graces were the five principal professional officers appointed, as Knibbs' first **Year Book** put it, 'to the command of the various greater divisions of statistic [sic] in this Bureau'. They were John Stonham, 'M.A., Sydney University (Chief Compiler)', Henry Spondly 'Zurich University', Charles Henry Wickens 'Associate of the Institute of Actuaries', Frederick Dalglish Rossiter 'M.A. Melbourne University', and Edward Tannoch McPhee 'Tasmanian Statistical Bureau'.

Spondly's province was vital statistics. Rossiter was recruited from the Victorian Bureau and was responsible for defence and the library. Wickens, who had recently composed Western Australia's first life tables after conducting the 1901 Census there, came to be supervisor of census. Stonham had been with the New South Wales Bureau and was given responsibility for 'general administration'. Though remaining nominally the senior officer, Stonham was passed over for both Wickens and McPhee (who had been in charge of trade, customs, and commerce) as well as by L. F. Giblin when the post of Commonwealth Statistician was vacant in later years. In May 1933, in the course of an unsuccessful appeal against a recommendation by McPhee that Roland Wilson should normally act as Statistician in McPhee's absence, Stonham claimed

. . . I was mainly instrumental in laying down the main lines of procedure at the inception of the Bureau. I was secretary to the first Conference of Commonwealth and State Statisticians . . . Mr Knibbs (as he then was) freely admitted that it was largely due to my official work that the Bureau proceeded on successful lines . . . In addition to being the **original** author of three chapters of the Official Year Book, I contributed portions to others, and some of my original writing in them remains to this day.²⁷

The conference at which Stonham served as secretary was held from 30 November to 8 December 1906. In the preceding months Knibbs had travelled to each of the State capitals to examine their methods and 'legal and administrative powers' as well as to seek out potential recruits. He also made an 'exhaustive but rapid examination of the whole range of Australian Statistic [sic]'. Knibbs' plan for the subjects to be covered by the new Bureau were foreshadowed by Senator J. H. Keating, Minister without Portfolio, on 11 October 1906 during discussion of the Appropriation Bill. Keating noted that the transfer to 'the Statistical Department' of the statistical officers of the Customs Department was under consideration.²⁸

Knibbs went to the 1906 conference armed with 'a comprehensive memorandum and a complete series of forms, indicating what might be attempted through an adequate organisation of the State Statistical Bureaus, and illustrative of the range of requirements of the Commonwealth

Statistician'.²⁹ His lengthy opening speech was a blend of credo and tactical compromise. The Commonwealth and the States were not 'different and mutually exclusive entities, as in the case, let us suppose, of different nations, but a single entity-the people of Australia'. There had been ministerial agreement earlier in the year, Knibbs pointed out, 'to the effect that general statistics should be relegated to federal control'. This was not a very enlightening formula. In reply to a request by the Prime Minister for elucidation, the States had offered a variety of self-serving interpretations which negated the agreement. The South Australian Premier had the singular honesty to confess on 19 July 1906: I have the honour to state that I am not aware of the meaning which these words were intended to convey'. Undaunted, Knibbs declared that the 'scope of the statistical requirements of the Commonwealth . . . cannot be less exhaustive than those of the States'. The Commonwealth was 'materially interested' in all of the available statistical data for State. Without a 'complete statistical record' it would be 'practically impossible to for the Commonwealth Government to be adequately and accurately advised in connexion with its administrative and legislative functions'.³⁰

No one was disposed to challenge these propositions. Nor was there significant The disagreement with the details of the 145 'common statistical forms' which Knibbs submitted for adoption. The conference unanimously adopted a series of resolutions that stated and elaborated on the desirability of uniformity in method, order, and date of 'co-extensive' statistical collection, compilation, and publication of statistical information by the State bureaus. Co-operation and consultation was pledged. Exchange of information, initially within the scope of the approved forms and thereafter by agreement, was to be free of charge 'and with the greatest punctuality of which the circumstances admit'.³¹

Some old problems were tackled and new ones identified. It was agreed that the services of the police rather than ordinary enumerators or direct enquiry should be used for the collection of information 'as far as practicable'.³² A quinquennial enumeration restricted to sex and age was seen as essential for ensuring accuracy in determining the fluctuation of population in the States.³³ (The Victorian Statist, having discovered what he believed to be a flaw that greatly exaggerated the loss of his State's population by sea, dissented from the recommendation that the method of estimating inter-censal population changes should not be altered until the next census.)³⁴

In his speech, Knibbs had argued that a 'principle of localisation' was needed in order to rationalise the 'determination of statistical aggregates within localities fixed by definite boundaries'. His declared preference for using police patrol areas, at least to as an interim procedure, did not win assent. But it was resolved that steps ought to be taken 'for the determination of definite statistical units of area, due consideration being given therein to local enactments, and existing State divisions'.³⁵ (In 1919 Knibbs was to publish a monograph on local government as a prelude to the proposed use of 'the municipal subdivision of the States as a basis for the presentation of data in connexion with next the census'.)³⁶

One of the benefits of localisation of statistical aggregates would be the availability of data linking specific forms of primary industry to 'means of communication'. Knibbs emphasised that such information was vital to determination of 'a true solution' for the management principles to be adopted for government railways. Should railways be run as commercial concerns intended to yield a profit or 'as means of developing a territory' without regard to 'immediate or direct profit'? Whatever the 'true solution' to this or other questions, improvements were also necessary, Knibbs noted, in factory, forestry, water and irrigation, fisheries, banking, private finance, and insurance statistics. Estimates of the value of agricultural produce needed to be put on a more consistent basis so that 'questions of economic loss arising from lack of co-operative effort or from difficulty in placing on a suitable market would be possible of fuller and more satisfactory discussion'.³⁷

Knibbs could be well pleased with the cordiality and consensus achieved at this meeting. Translating it into concerted action was to prove another matter. During 1903, 1904, and 1905 New South Wales, Queensland and Tasmania had adopted a system of classifying causes of death introduced by the British Registrar-General in 1901. In spite of agreement at the 1902 Statisticians' Conference, Victoria, South Australia and Western Australia had persisted with the Farr-Ogle system. At the Melbourne conference Knibbs successfully recommended the use of the International Institute of Statistics' Bertillon Index. But it was not until 1917 that he was able to report that all of the States were employing the Bertillon System in their monthly and quarterly bulletins of vital statistics.³⁸

Among Knibbs' earliest tribulations was confusion over the activities of Coghlan. In July 1906 Knibbs had concurred with a proposal that Coghlan should publish a volume of statistics on Australia and New Zealand for 1904-05. Coghlan had offered to undertake the task, contending that it was very much a personal work; and the Premier of New South Wales had sought the agreement of the Commonwealth Government to this once-only sequel to the now discontinued New South Wales publication, **A Statistical Account of Australia and New Zealand**. A grant of £500 was made to Coghlan in return for the supply of copies of the work but nearly a year later Coghlan advised that he was abandoning the project.³⁹

In the meantime the Bureau staff had been examining existing statistics prior to establishing their own procedures. 'So many discrepancies were found', Knibbs advised the Secretary of the Department of Home Affairs, 'that it became necessary to compile authoritative statistics for whole Commonwealth period, 1901 to 1907'⁴⁰ In a draft response to a parliamentary question on whether the government intended to authorise the annual issue of a statistical publication 'on similar lines to that compiled by T. A. Coghlan, and entitled "A Statistical Account of Australia and New Zealand"' Knibbs wrote that he had been authorised to publish 'an Official Year Book for the Commonwealth'. However, the volume 'will not be based upon "Australia and New Zealand" as a model, but its form has been decided upon after a comparative study of the annual statistical publications of the civilised world'.⁴¹

Eight thousand copies of this innovative book were to be printed, half of which were to be taken by the Department of External Affairs. Knibbs had recommended a 'liberal supply' to British, American and other foreign libraries, as well as to schools, public libraries, steamers, trains, schools of arts, mechanics institutes, agricultural societies, mining institutes, farmers' associations and 'debating societies with proper libraries'. In order to 'meet the difficulty of excessive demand for gratuitous copies', 1,000 copies were also to be placed on sale at 3/6d plus postage.⁴²

Arrangements for the printing of the **Year Book** were themselves the source of prolonged controversy. Knibbs had to overcome Treasury opposition and gain ministerial approval in order to call for tenders rather than rely on the slow and allegedly inferior work of the Victorian Government Printer. He insisted that the entire body of type should be set by hand rather than by linotype or monotype machines. Although one prospective tenderer had indicated that hand setting would double the cost, Parliament was assured on 9 October 1907 in answer to a question on notice to the Prime Minister:

the work is of a special nature, involving a large amount of tabulation, and is subject to continual alteration, as fresh data comes to hand, and in the opinion of experienced statistical officers and printers, it cannot with advantage and economy be dealt with by machine setting.

Only a handful of large firms - John Sands, Sands & McDougall, and McCarron, Bird - could readily meet the requirements of the tender, especially restrictions on sub-letting portions of the contract. McCarron, Bird of Melbourne were the successful tenderers.

It was possible to expedite printing - 'a private firm has to please, or the custom is lost' Knibbs noted in a memorandum of 21 February 1907, to the Acting Secretary of the Home Affairs Department. But there was little that could be done to overcome the dilatoriness of the States in submitting information. 'Under existing arrangements this Bureau has to wait until the States of the Commonwealth have compiled the information before we can even start to compile, and owing to the unequal efficiency in the staffs of the several State Offices some of them are much later than others. Further the compilation of individual subjects is not contemporaneously carried out in several States.'⁴³

Nearly a year later Knibbs advised his Minister that the Commonwealth Bureau 'is at the mercy of the slowest and least efficient State Bureau for the completion of practically the whole of its statistics'. This crippling dependence was obviously irksome. 'Unless more strenuous efforts are made by the States to supply the Commonwealth with statistical information it will become necessary for the central authority to obtain statistical information directly instead of through the State Statisticians.'⁴⁴

The long awaited first edition of the *Year Book* was widely welcomed. Six months after publication Knibbs forwarded ten pages of extracts from press and personal comments to his Minister, Hugh Mahon. From the range and tone of newspaper reviews it was clear that the volume had achieved its objective of promoting overseas appreciation of Australia. Walter Murdoch, lecturer in English Literature at Melbourne University, commended the work as 'a miracle of clearness'. The German Acting Consul-General in Sydney and the Commander-in-Chief of the United States Atlantic Fleet found the book 'of great service' and 'invaluable' respectively.

As for the Minister, he minuted that it was 'a triumph of industry, discrimination and judicious arrangement'. Diffidently, he suggested that 'a more copious index to the multitude of facts' might be desirable.⁴⁵

The only sour note to find its way into the files was an anonymous review in the **Bulletin** on 7 May 1908 which, the Minister was assured, 'Misrepresents the facts and figures in a very remarkable way'. But the **Bulletin's** most wounding shaft was aimed not at the Statistician's 'columns of figures and his mathematics' but at his efforts as a 'descriptive writer'.⁴⁶ The unstated contrast with Coghlan leaped from between the lines. Coghlan's own judgment was unflattering:

Knibbs, I take it, must have the ear of the press, as I do not hear of any complaints. His yearbook is full of errors, being so inexperienced, I wonder that he did not lay himself out to make a success of one thing at a time.⁴⁷

'To be a successful Statistician, one needs to be an economist', he explained to Deakin, 'statistics and mathematics are often directly opposed'. To another old friend Coghlan wrote 'I feel vexed with Knibbs who deprecates everybody's work and does very little himself'. Candidly he confided that he was not enamoured of his post as Agent-General. 'I would rather be Statistician any day.'⁴⁸

Coghlan's regret at taking a wrong turning in his own life blinded him to the substance of Knibbs' achievement. The *Year Book* was an outstanding production. In 29 chapters spread over 931 pages, the Commonwealth had a remarkable compendium of data, historical summaries, and occasional commentary. While there was considerable thematic continuity between Coghlan's **Statistical Account** and the **Year Book**, Knibbs' volume had a more austere tone. There were no chapters corresponding with Coghlan's 'Food Supply and Cost of Living', 'Social Condition', and 'Religion'. Where Coghlan had written of 'Industrial Progress', Knibbs dealt with 'Industrial

Unionism and Industrial Legislation'. Nevertheless, the new reference book provided glimpses of the Statistician's personal judgment. In discussing 'Causes of Decrease in Crime' Knibbs noted that 'collaterally with the introduction of ordinary intellectual education certain people have departed from their pristine virtues'. He remarked on the 'mistaken zeal' of police in informing employers about the prison records of prospective employees, and condemned the 'danger and absurdity of sending drunkards to gaol'. On the contentious question of 'Trade of the United Kingdom with Australia. Has it been Diverted?' he relied heavily on quotations from a report of the Advisory Committee on Commercial Intelligence of the United Kingdom Board of Trade.⁴⁹ The following year, however, there was a much expanded chapter on commerce, including articles on the customs tariff of 1908, and the development of trade with the East. In succeeding years specially contributed essays became a feature of the **Year Book** covering such topics as the kindergarten movement (1909), Aborigines (1910), the Commonwealth seat of government (1911), preferential voting (1912), and anthropometrical measurements of military cadets (1918).

GEORGE KNIBBS: INITIATIVE AND ACHIEVEMENT

Knibbs' philosophy and vision were further expounded in a series of publications, in addition to the annual *Year Books*. 'Uniformity in Statistic [sic] an Imperative Necessity', Knibbs' first **Year Book** had proclaimed in a bold heading.⁵⁰ Statistical uniformity, Knibbs said, was an urgent requirement of Commonwealth administration. But, while the Commonwealth 'is directly concerned with the good of the whole as well as that of the individual States' the thrust of his argument remained the same as that of his address to the State statisticians in November 1906, that the well-being of the Commonwealth implies the 'well-being of its integral parts, viz. the several States therein'.

In a lecture on 'The Problems of Statistics' delivered to the Australasian Association for the Advancement of Science in 1910, Knibbs disclosed his conception of the purpose and agenda of modern official statistics:

Official statistics . . . arise from a clearer perception of what is essential for productive administration, and for what has been called, in the wider sense of the term, police regulation.

The **raison d'être** of official statistical organisations was the need for 'an adequate statistic [sic]' that would make it impossible 'to distinguish between results which may be properly credited to wise or bad government and what may more properly be credited to the lavishness or niggardliness of Nature'.

Knibbs saw it as a fundamental task of economics to investigate 'the economic efficiency of the human unit'. As he conceived it, this entailed calculating the energy spent in nurture, education, and 'general maintenance' and setting it against 'productive activity'. It would be desirable, he contended, to know the extent to which the activity of productive units was affected by disease, and variations in efficiency according to age and natural and acquired endowments. The cost of general and preventative medicine, and of education and occupational training, would also need to be considered in 'any equitable adjustment of the social system'. A 'complete analysis of the total economic effect' of public hygiene measures remained to be made. And, without explicitly endorsing the arguments of eugenicists, he noted that 'eugenic considerations were increasingly influencing public opinion, and commended the 'systematic examination of school children from an anthropometric and hygienic point of view'.

Returning to one of the subjects he had put before his fellow official statisticians in 1906, he articulated his argument that 'too strict an adoption of the commercial principle may be detrimental to the general interest of the community' when applied to the nation's railway system. Knibbs left no doubt that he had a vision of the role of statistician guided by a 'high aim' of

understanding 'the inter-relations and inter-dependencies of man with his fellow-man, and, from his position of professional expert in statecraft, assisting the administrative statesman with his counsel and advice'.⁵¹

High minded utterances combined with what W. M. Hughes, the Attorney-General, characterised as 'wholesale condemnation of his predecessors' exposed Knibbs to criticism for 'the extraordinary amount of corrigenda in his own work'. Hughes told Knibbs' Minister, Hugh Mahon, in April 1909, that the Commonwealth Statistician is 'purely a theorist'. 'If you were to make enquiries into the work of his office you would find', Hughes forecast, 'that what he does himself is very little indeed'.⁵²

The source of many of the adverse assessments of Knibbs was the acerbic pen of Coghlan. Thus when Knibbs travelled overseas to study census methods he was derided for taking 'a jaunt'. And, in a letter to a friend at the **Bulletin**, Coghlan confided that 'I think his work is of poor quality, and he suffers terribly from swelled-head'.⁵³

Critical perceptions of Knibbs' activities were associated with State resistance to Commonwealth ambitions. When the Western Australian Government introduced a statistics Bill in July 1907, Knibbs pressed for federal intervention to prevent it, but the Attorney-General, Groom, advised that a State Parliament had the right 'to legislate to obtain certain statistics for itself independently'. It was a question of policy whether representations should be made 'in respect to the unnecessary duplication of machinery'.⁵⁴ Persistent efforts by Knibbs from 1907 onwards to persuade his Ministers that 'federalising of statistical services' was essential were to no avail. While the principal State statistical officers of Queensland and South Australia had been appointed as Commonwealth officers as envisaged in the 1905 Act, they operated under an uneasy formula - which encountered prolonged resistance from other States - that entailed their acceptance of 'professional directions' from the Commonwealth Statistician without being under his 'immediate administrative authority'. 'The present system of dual control is conducive to delay, incompleteness and want of uniformity in presentation', Knibbs complained to his departmental head on 26 November 1909 after vexing correspondence with Queensland and frustrating delays in obtaining returns from the under-staffed Tasmanian statistician. Nevertheless, because of the need for co-operation on the Census, he suggested the following April that 'the matter of assuming the whole range of statistical functions' should be deferred until after the main part of the Census work had been completed.⁵⁵

The 1911 Census was the first major opportunity for Knibbs' counsel (and the talents of Wickens as a vital statistician) to be implemented. Knibbs adopted the innovative New South Wales and Victorian question of 1901 about the number of children born to the marriage and extended it to previous marriages. (Ex-nuptial births were not recorded and data on women who were separated, divorced, or widowed were collected but not tabulated.) He introduced questions about race, the occupation of a person's employer, and the length of time unemployed persons had been out of work; and made it possible to distinguish between house-owners and tenants. The weekly rent of tenants was asked but the Senate refused to sanction questions about alcohol consumption, wage rates, and the amount of currency in circulation. Information was to be supplied on cards by each individual rather than on a household schedule. The British were planning to transfer data from householders' schedules to Hollerith punched cards for storage and processing. Knibbs decided, however, that electric adding machines and calculators, but not tabulating or sorting machines, were to be used for computation. In a widely circulated pamphlet, Knibbs explained the historical background, purposes, and operations of the Census. As a 'national stocktaking' for 'sociological, economic and hygienic purposes' the data would enable the government to deal more effectively with 'the most urgent problem of the day', the declining birth-rate. In explaining some of the administrative, financial, and social policy objectives of Census taking, Knibbs made an effective case for the prospective temporary employment of 350 enumerators, 6,000 collectors, and 150 clerks.⁵⁶

Among the 1911 findings, published in seventeen bulletins and a three volume report, were some with significant policy implications, notably the estimates of the male population aged between 18 and 60 who were eligible to serve in the Citizen Forces in time of war (57 per cent), and the revelation that 4.5 per cent of the population was eligible for old age pensions. Because of mis-statements by respondents, calculations of age based on previous censuses were believed to be very inaccurate. Knibbs and Wickens introduced a process of 'age smoothing', but the problem persisted, posing a puzzle for successive Statisticians. As the 1933 Census Report put it, 'unassailable generalisation' about the reasons for mis-stating age was not possible. Ignorance and carelessness were factors, as were

a more or less conscious preference for certain attractive digits, such as 0,5, and even numbers, and possibly unconscious aversion to certain odd numbers such as 7; and some wilful misrepresentations arising from motives of an economic, social or purely individual character.

By 1961, the problem had largely evaporated, probably as a result of improved educational standards and 'a more constant necessity' to disclose or prove age in a variety of contexts, as well as the compulsory registration of births, deaths, and marriages.

Confronted by the fact that their 1911 figures showed that 80 per cent of all reported cases of deaf mutism were aged 10 to 14, rather than in the earliest age groups as would be expected for a congenital condition, Knibbs and Wickens sought the explanation in understatement by parents hoping that their children would recover or anxious about losing them to educational institutions. The group aged 10 to 14 would be thoroughly enumerated because they were likely to be receiving specialised education and their teachers would provide the census information. Ten years later the discovery that the age group 20 to 24 had the most deaf mutes made it clear that an epidemic of some sort must have affected this particular cohort. Later medical research, drawing heavily on the 1911 and 1921 Census results, established a convincing link between deaf mutism and rubella.

Knibbs justified the inclusion of a question about race as 'important for the Commonwealth Representation Act, which expresses the determination of the people of the Commonwealth to preserve their country as a white Australia'. While the racial question was principally concerned with European and non-European origins, full blooded Aborigines in accordance with section 127 of the Constitution were not included in reckoning the numbers of the people. Not until 1933 were collectors instructed to gather as much information as they could about Aborigines 'in employment or living in proximity to settlements'. Only after the repeal of section 127 of the Constitution in 1967, did the focus shift to identifying for policy purposes an 'Aboriginal/Torres Strait Islander' population rather than a European one. Seventy years after Knibbs introduced the race question, the discredited concept of a 'European race' was dropped. Information sought thereafter about country of birth, citizenship, and language use reflected the concerns of a multi-cultural society; and the large number of persons identifying themselves as Aboriginal (40 per cent more in 1976 than in 1971) demonstrated a radical shift in attitudes.⁵⁷

One of the most controversial aspects of the 1911 Census was the Statistician's calculation of the population of the States which showed that both federal and State inter-censal estimates had consistently overstated each State's population. Bickering over the reasons for the discrepancies did not disguise the real cause of concern - every head less was 25 shillings less in a State's coffers from federal contributions. The Commonwealth steadfastly resisted a call for a statisticians' conference to re-examine methods of calculating population. Believing themselves to be 'men competent to discuss the matter, and who have had the practical handling of Australian Statistics for many years', the State statisticians convened in Sydney in March 1912 and agreed on recommendations for compilation of overland migration figures. They also urged the Commonwealth to resume collection of interstate trade statistics and passed a ritual resolution in favour of a quinquennial census limited to 'sex and locality'. Incensed by a press

statement by King O'Malley, Minister for Home Affairs, blaming the States for the 'dilatory supply of statistics', and threatening the establishment of 'Common-wealth Statistical Bureaus' in each State, they wrote to Knibbs asking if he was in sympathy with this view. They could not have been appeased by a reply suggesting the impropriety of asking for a comment from an official about a Minister. 'The facts will, of course, speak for themselves' Knibbs concluded.⁵⁸

From its earliest days, the Bureau published regular bulletins on finance, population and vital statistics, production, transport and communication, and social statistics. From 1910 onwards, in a political environment increasingly concerned with inflation and employment issues, substantial effort was devoted to studies of employment, wages, prices, and the cost of living. Data from a household budget survey, in which only 222 out of 'approximately 1,500' account books dispatched were returned, were subjected to exhaustive manipulation. Knibbs expressed his regret that only 9.4 per cent of the families who embarked on the exercise 'persevered' throughout the twelve month period required. He compared Australians unfavourably with 'the masses of the community' in the United States and Germany whose performance on similar projects had demonstrated their understanding that 'sociological knowledge can contribute to national success'. Optimistically, Knibbs tried again in November 1913, inviting volunteers to fill in a detailed record of income and expenditure for a month. Of 7,000 sets of papers distributed only 392 useable budgets were returned. Although the sample left much to be desired, the analysis was suggestive, and once again included calculations of average weekly expenditure on food weighted for age and sex which were comparable with the most advanced contemporary overseas methodology. Nearly 50 years elapsed before the Bureau's next social survey venture—the labour force survey.⁵⁹

In a report on **Social Insurance** written after his European trip of 1909, Knibbs noted the need for more information about unemployment before the impact of a scheme of insurance could be assessed.⁶⁰ Fired by the 'entirely new development' represented by Winston Churchill's plans for national labour exchanges and compulsory unemployment insurance, Knibbs devised a new Department of Labour and Statistics 'to co-ordinate and centralise the Commonwealth agencies dealing with labour, industrial and statistical matters'. The Statistician envisaged detaching this Bureau from the Department of Home Affairs, adding responsibility for the administration of the Conciliation and Arbitration Acts from the Attorney-General's Department, and establishing a network of labour exchanges.⁶¹

Early in 1911, the Labour Minister for Home Affairs, King O'Malley, had directed his permanent head, David Miller, 'to eliminate the red-tape circumvention, the needless multiplication of records, the grave waste of time and the most useless expense' which allegedly characterised the 'ptolemaic business system' of his department.⁶² But, while he was emphatically in favour of more autonomy for the 'sub-departments' of his Ministry responsible for electoral, meteorological, and statistical matters, O'Malley's low standing in the government made Knibbs' ambition unattainable. Even the Statistician's more modest wish to establish the Bureau alone as an independent department with himself as a 'permanent head' with 'the necessary powers, as to organisation, control, and discipline' was, as it turned out, some 60 years premature.⁶³

Within the Bureau a Labour and Industrial Branch was set up in 1911 and was responsible for reports on **Prices, Price Indexes and Cost of Living in Australia, 1891 to 1912** and **Trade Unionism, Unemployment, Wages, Prices, and Cost of Living in Australia 1891 to 1912**. A Labour Bulletin began publication in 1913 covering industrial conditions and disputes, unemployment, retail prices, house rent, and cost of living, wholesale prices, and wage rates. Although much criticised by later officials and scholars, this was pioneering work providing information where previously there had been none and authoritative data for the Arbitration Court's deliberations on wages.⁶⁴

In taking stock of the progress of official statistical endeavour by 1914, Knibbs commented that the compilation and computation of statistics relating to production, including agricultural, pastoral, dairying, mining, manufacturing, forestry and fisheries, remained the province of the States. He lamented the absence of a single centre where 'all the details are available for systematic study' and opined that 'the latent powers of the Commonwealth might need to be exercised to secure uniformity, efficiency, and reductions in cost. Another handicap to be overcome was the difficulty in recruiting, housing, and retaining staff with 'considerable powers of analysis, aptitude for original research, and the special ability to penetrate the hidden significance of statistical data'.⁶⁵ The staff difficulty was shortly to be compounded by the enlistment of Bureau personnel and the transfer of others to wartime duties in other spheres. By 2 November 1916, only 15 of the staff of 27 remained, and the 44 year old Wickens who was married with children, had to be restrained by the Minister from joining the infantry following the failure of the conscription referendum.⁶⁶

Shortly after the outbreak of war in 1914, Knibbs circulated an 'urgent' letter to his State colleagues recommending that production and trade statistics should hence-forth be compiled on a fiscal year basis rather than from calendar years or agricultural years (which ended either on February 28 or March 31). J.B. Trivett of New South Wales was the first to respond favourably. South Australia's new Statist, W.L. Johnston, advised in July 1916 that he had agreed with his predecessor that the statistical year should in future end on June 30. 'I have little doubt', Knibbs wrote, 'that . . . all will eventually fall into line'.⁶⁷

One way of ensuring uniformity was for the Commonwealth to take over the State bureaus. King O'Malley, once again Minister for Home Affairs, was able to persuade the Acting Prime Minister, George Pearce, to propose that the Commonwealth 'should assume the duty of compiling and publishing all Australian statistics'.⁶⁸ But the States proved uniformly unenthusiastic. R.M. Johnston of Tasmania advised his Premier that 'such a scheme of transfer and monopoly, of the right of publishing all statistics would be detrimental to State interests'.⁶⁹ In South Australia, where all statistics were collected under the authority of the Commonwealth Census and Statistics Act and little was collected beyond what the Commonwealth required, there had been a deliberate avoidance of duplication in tabulation, compilation, and publication. The South Australian statisticians believed that continued compliance with Commonwealth requirements, together with discontinuance of the vital statistics operations of the Registrar General of Births, Deaths and Marriages, would make a transfer of control unnecessary.⁷⁰ In Victoria, the Chief Secretary warned that the discontinuance of State statistical endeavour would be 'crippling' to Parliament and Royal Commissions and inconsistent with the State's dignity.⁷¹

A motion in favour of amalgamating the statistical bureaus of the Commonwealth and the States was actually carried at a conference of Ministers in Adelaide in May 1916. But, after two years of desultory deliberation, the States announced via a memorandum from the Premier of New South Wales on 2 July 1918 that 'under the circumstances it is not proposed to take any further steps to give effect to the resolution passed at the Conference'. Although 'many manifest disabilities' were cited as more than counterbalancing any advantages that might accrue from amalgamation, no specific 'disabilities' were identified by the States. R.M. Johnston had once complained to Knibbs of 'frequent changes made by your central bureau without previous warning, and the gradual growth of details under various categories from year to year'. Clearly, while Johnston and other statisticians might continue to co-operate and to espouse a doctrine of uniformity, they remained unwilling to surrender the autonomy which they and their predecessors had enjoyed for so long.⁷²

While State statisticians were resolute in maintaining their freedom of action, the exigencies of war - the need for what Prime Minister Hughes called a 'great scheme of organisation' - produced a War Census Act in July 1915 that imposed significant duties of disclosure and compliance on

the Australian public. The onus to obtain, complete, and return the schedules was placed on respondents who were required to provide information not only about the present occupations of males aged eighteen to 59 but about other occupations they were capable of undertaking. The 'personal' card also asked questions of direct concern to military and security authorities - about health, military training, possession of firearms and ammunition, birthplace, and citizenship. A 'wealth and income' card sought details from all persons over eighteen not only of 'income' and 'property' but also about ownership of motor cars, motor cycles, other motor vehicles, and traction engines, and 'the kind and number of any other vehicles'. Information was also required on horses and foals (by sex and use), cattle (including working bullocks), mules, camels, sheep and pigs.

Using lists derived from their card indexes, the war census staff were able to facilitate the issue of recruiting appeals to all males other than the enemy subjects aged between eighteen and 45; and war loan appeals and prospectuses were dispatched to persons who had disclosed that they were 'in possession of £1,000 or upwards'. Complete lists of those born in enemy countries or whose parents were enemy aliens were 'prepared for the information of the military authorities'.⁷³

Suspicion that the census of income and wealth was a prelude to fresh taxation imports led to 'conservative' estimates. There was evidence that some parents omitted to record the property of children under eighteen, and some older pensioners may not have filed. Nevertheless, in spite of the problems caused by those whom the South Australian Statist described as 'the simple minds of the community', the inquiry was a uniquely revealing exercise which, as the *1925 Year Book* candidly admitted, was unlikely to be repeated in 'normal' times because of its 'inquisitorial character'.⁷⁴

While conscious of the deficiencies of the war emergency census, Knibbs urged the desirability of distributing wealth and income forms with each decennial population census. The Statistician suggested:

In those cases in which there is an objection to disclosing the particulars, in respect of wealth and income to a local resident (the collector) even though under an oath of secrecy, arrangements could be made for the collector to furnish an envelope for the transmission of the form post free to the Commonwealth Statistician, and could, by a note to this effect in his record book, ensure that the person to whom the envelope was issued would not be overlooked in the event of default.⁷⁵

Following several months in England in 1919 as the Australian representative on the double taxation sub-committee of the Royal Commission on the income tax, Knibbs had concluded that it would be desirable to collect more statistics on taxation of income and land. He reported to Stonham that there was a growing feeling in Britain that:

there will have to be a heavy wealth tax, and that the nation's well-being will not allow the War Debt to be a perpetual charge on the nation's productive activity . . . I am hoping, that in these, as in other matters, we shall be able to set the pace in Australia.⁷⁶

But in the debates on the legislation required for the 1921 Census, the Labor leader, Frank Tudor, quoted correspondence in which Knibbs resiled from his support for a contemporary income and wealth survey which he now said was unnecessary, inconvenient, and impracticable. Reliance would be placed henceforth on inventory estimates of wealth, Knibbs having already advised the government that 'any estimate of wealth based on probate returns must take into account at least five, or still better, ten years experience'.⁷⁷

Early in 1920 Knibbs attended the first Empire Statistical Conference in London. In preparing for the Australian submission to the conference, Knibbs had compiled a comprehensive

memorandum which advanced the case for an Imperial Statistical Bureau. Reflecting his experience at the head of a federal agency, Knibbs argued that the prestige of an imperial bureau would be 'a more potent factor in the introduction of uniformity than any number of Statistical Conferences'. Continuity would also provide regular analysis not available from the intermittent conference method of control' or a 'mere summarising agency'. Among Knibbs' observations was a condemnation of existing statistics on unemployment as 'meagre and unsatisfactory'. He emphasised the need to measure the 'efficiency' of labour and of manufacturing on a common basis, and saw an urgent need for better data on industrial disputes.⁷⁸

In a letter to Stonham from London, Knibbs foreshadowed that 'we shall have to enlarge Industrial Section's work, and in a way which will take account of the industrial drift . . .'⁷⁹ Knibbs had been developing his thinking on the social issues of race hygiene and migration. His changing interests, and the challenge of a new task, led Knibbs to accept the invitation of the Prime Minister to take up the directorship of the newly created Bureau of Science and Industries in 1921.⁸⁰ In the fundamentally unpropitious environment of an emergent Commonwealth, Knibbs had built an organisation that was respected by those whose judgment was not impaired by jealousy or political and institutional antagonism. He had coped with a dizzying succession of Ministers, creating and maintaining a high reputation for professional competence and integrity. Occasional controversy and collisions of personality did not detract from basic achievement and growing authority of what had become a secure element of the federal administration. The New Zealand Government Statistician, Malcolm Fraser, had written to his Australian colleague in 1919:

I know that on account of your experience and pioneer work in Australia you would bring more initiative and influence to the Conference (of Empire statisticians) than any other Representative, and without your assistance the work of the Conference would suffer. I freely acknowledge New Zealand's indebtedness to you; your work in Australia has been a constant help and inspiration to us here. I notice also the Director of the new Statistical Office, established in South Africa, in his Year Book, which is so closely modelled on the Commonwealth Year Book, makes particular acknowledgment of your help and advice. No other Statistician in the Empire is so well known nor is there any whose views carry more weight - but your reputation is not confined to the Empire; it is world-wide.⁸¹

These unsolicited remarks, prompted neither by a valedictory occasion nor the hope of preferment, were a fitting tribute to the work of the first Australian statistician to bear national responsibilities.

PART IV: THE PATH TO UNIFICATION

THE WICKENS DECADE

CHARLES WICKENS had not disguised his ambition to succeed Knibbs and he was indisputably the most able professional statistician on the Bureau's staff. As Supervisor of the Census since 1912, he was by the end of 1918 being paid a salary of £606. On the basis of merit reflected in a salary differential of £66 and his status as a 'professional' rather than a 'clerical' officer, Wickens had argued unsuccessfully late in 1918 that he rather than John Stonham, the 'Chief Compiler', should act as Commonwealth Statistician during Knibbs' absence overseas.

Atlee Hunt, Secretary of the Department of Home and Territories, formally advised the rivals at that time:

. . . this decision in no way limits my complete freedom of recommendation in case a vacancy should occur in the office of Statistician, as in my judgment, the principles which should guide selection for acting and for permanent

Wickens' appointment as the second Commonwealth Statistician in August 1922 (and the addition of the title 'Actuary' in 1924) was emphatic recognition of the outstanding place he already held in the Australian statistical community. His selection, from a field of seven, brought to the helm of the Bureau a man not only widely respected for his professional attainments, but with gifts of personality which his predecessor had lacked. Fortunately for Wickens, the passage of years had removed some of those State officials whose resistance to change had so frustrated Knibbs. By 1922 the Bureau's role was established and Federal-State co-operation was a habit rather than a novelty. But Wickens' own warmth and tact were now to be key elements in the greater harmony which characterised the 1920s.

A new mood was quickly sensed. As the delighted South Australian Statist put it after meeting Wickens for the first time at a conference in Melbourne in October 1923:

. . . the atmosphere . . . and the results arrived at were an agreeable surprise to myself and I think also to the other delegates judging by after conversations. Whatever the ultimate decision of the States be [on unification] it is quite certain that the Conference was very effective in creating a much clearer and favourable understanding of the proposals of the Commonwealth, thanks largely to the genial personality of the Chairman and his lucid statements and sympathetic recognition of the local points of view.⁸³

Within the Bureau, Wickens moved swiftly to fill consequential vacancies and clarify duties. To his previous position of Supervisor of Census he promoted E. T. McPhee. However, in a reversal of the classification he had argued for a decade earlier when seeking to have his own status made comparable to two of his 'professional' colleagues, Gerald Lightfoot and F. W. Barford, the Supervisor was now graded Clerical (Class 1) rather than professional (Class B). 'As the duties of the position are neither more nor less professional than those of the other senior positions in the Bureau,' Wickens contended, 'the distinction at present existing is undesirable'. For the disappointed Stonham there was the compensation of a new title as Editor, Official Year Book, and a salary increase of £24 a year. Stonham's position was to be placed in the special 'A' class of the Clerical Division, and he was to be responsible for editing the **Quarterly Summary** and the **Pocket Compendium** as well as the **Year Book**, and for 'general supervision over all matters involving printing and publishing'. With Wickens' own salary £250 less than Knibbs', and McPhee's lower by £158 than his predecessor's the new Statistician was able to show net savings on Bureau salaries of £484.⁸⁴

Before his promotion, Wickens had already embarked on a campaign to enlarge the Bureau's role as a central tabulating agency for the government. There had been public talk of reducing the cost of the census by £10,000 to £12,000 by the use of leased tabulating equipment. As **The Age** commented on 4 August 1919, 'machines are now in existence that can automatically count, sort, and add, and do other wonderful things, seemingly bordering on the miraculous'. For the analysis of the 1921 Census data, collected by a team of 11 deputy supervisors, 75 enumerators, 979 sub-enumerators) and 9,500 collectors, electrical machinery and 'Hollerith' cards were supplied by the British Tabulating Machine Company. The Commonwealth signed a five year agreement under which, for £1,580 a year, it had the use of three counting machines, three sorting machines, and a counter tabulating machine. A company mechanic was made available for an additional £1,600 a year. So impressed was he with this equipment, and evidence of economies from overseas experience, that Wickens urged its wider use in a series of minutes to his departmental head. Having established the value of machine tabulation on census data, he pointed to trade and customs, and labour and industrial branch activities as promising areas for development. By November 1922 'dual' cards had been produced on which vital statistics could be recorded in the State registration offices both in writing and in punched form. But overtures to other departments and authorities- Postmaster-General's, Railways, Treasury, Trade and

Customs, and the Commissioner for Taxation - were all rebuffed.

Wickens restated his case in July 1923 in the hope that the newly created Public Service Board might be moved to act under Section 17 (1) (a) of the Public Service Act which empowered it to 'advise means for effecting economies and promoting efficiency in the management and working of Departments'. 'I am convinced,' he pronounced:

that any one who has had practical experience of the efficiency, economy, and adaptability of the tabulating machinery would as little decline to use it as he would decline to use a typewriter or a comptometer after having become acquainted with their respective capabilities. . . .

The following are the principal advantages of a central tabulating bureau as compared with a number of small installations:

- (i) Regular supply of data; ensuring continuous working.
- (ii) Continuous running; enabling expert staff of operators to be organised.
- (iii) Concentration of plant, facilitating effective and economical supervision of operators and plant.
- (iv) Derangement of work due to temporary incapacitation of a machine minimised when other machines are on the spot to take up the running.

Notwithstanding the cogency of this classic argument for the centralised provision of tabulating services, Wickens met the resistance to be expected from public service barons jealously patrolling their ramparts. In the U.S.A., South Africa, and Egypt, staff savings of at least one-third had been made in tabulating trade and customs data, the statistician reported enticingly. 'The machinery method is as far ahead of the hand method as the motor car is ahead of the bullock dray' he affirmed unavailingly for those of his colleagues who were better at images than figures. Two years later, after an experiment on Victorian trade for February 1925, E. T. McPhee submitted a comprehensive proposal for centralisation of all machine processes of purchasing and tabulating trade statistics which Wickens estimated would produce cost savings of 15 per cent within three months. Trade and Customs was predictably unmoved. In a somewhat mischievous re-opening of the dialogue in 1927, the Comptroller-General of Customs passed on a suggestion from the Tasmanian Collector of Customs that if State statistical organisations were progressively to come under the aegis of the federal government there might be salary savings if the State organisations were placed 'under the control of the Customs Department'. It was the Bureau's turn to repel boarders. Responding to the Customs proposal on the basis of briefing from the Deputy Statistician, L. F. Giblin, -and the Acting Statistician, McPhee, the Secretary of Home and Territories returned a chilly reply on 26 May 1927:

. . . I am directed to state that it does not appear that any appreciable saving in money or staffs would be effected . . . However, if definite evidence of overlapping or duplication in specific cases is supplied, consideration will be given to the best means of obviating such overlapping or duplication.⁸⁵

What had given some plausibility to the Customs gambit was the successful negotiation of arrangements for the transfer of the Tasmanian statistical bureau to the Commonwealth. The Prime Minister, Stanley Bruce, had persuaded a conference of Premiers and Ministers in May 1923 that it was 'desirable that one statistical authority shall be established' and that a statisticians' conference should be convened to make recommendations. Under Wickens' chairmanship, a conference was held in October 1923 and produced a scheme designed to lead to 'the greatest attainable uniformity, efficiency, and economy in whatever arrangements might be made eventually by the several Governments'. Although Queensland showed some inclinations towards unification, and Victoria entered into comprehensive negotiations, it was Tasmania which took the lead. Realising that there was no prospect of the State ever being able to provide adequately for the necessary statistical work, L. F. Giblin (who had succeeded R. M. Johnston

late in 1919 and had the confidence of his government) was a strong advocate of a federal takeover. 'At present,' Giblin had confided to Wickens early in 1924, 'we have three [temporary staff] . . . and at that can barely keep up - and are in fact all the time behind hand in most things'. Supplying agricultural statistics was a particular problem in Tasmania, Giblin noted, because:

(1) The farmers supplying the statistics are often without education and indifferent or hostile to giving the facts.

(2) The data are not given direct but are collected by Police Officers who may be indifferent or careless . . . collection of these statistics can be a pure farce, and has been in many cases.⁸⁶

Unification of the Tasmanian and Commonwealth bureaus would assist in bringing down the curtain on the farce. It would also end the undesirable necessity to vote 'considerable sums' to enable the compilation of Tasmanian statistics to be, as Wickens put it to J. G. McLaren, his departmental head, brought up 'to the level required for Commonwealth purposes'. It took only a day of discussions between Wickens and Giblin to reach an understanding that proved acceptable to their respective governments. The agreement, which had been reached before the 1923 conference of statisticians, was embodied in legislation by both the federal and State parliaments and came into effect from 13 November 1924.⁸⁷

In addition to the formidable Major Giblin, soldier, sportsman, adventurer, politician, and adviser to the Tasmanian Premier, J. A. Lyons - the merger of the two bureaus brought into the Commonwealth service a team of talented and uniquely qualified young men. Giblin had encouraged and supervised the Commerce degree courses of four Class 5 officers: C. L. Steele, K. F. Andrews, S. E. Solomon, and K. M. Archer. The agreement with the Commonwealth incorporated provisions under which each could continue his studies and receive a refund of fees in return for undertaking to remain in the public service for five years after graduation. The indentured junior officers were a precious resource, and Giblin and Wickens subsequently pressed for financial incentives (through reclassification of positions) to retain their services. As Giblin commented in 1927:

The experiment in the appointing and training of officers for the Statistical Service has, in my considered opinion, abundantly justified itself. They have all four reached a high degree of competence for difficult statistical work - a very high degree considering the comparatively few years they have been engaged in it. This competence is combined with a keen interest in the work, and the growth of a strong professional spirit which has made this office the very antithesis of the popular conception of a Government Department.⁸⁸

Wickens needed no convincing. He had himself lamented to Giblin some years earlier: 'Here in Victoria the entrance to the Commonwealth Service is still choked with returned soldiers who passed a relatively light examination in 1920 and have not yet been all absorbed'. While particularly solicitous for the four young men whom Giblin commended for having 'equipped themselves by a long and severe University training, undergone at great sacrifice of their leisure and recreations, . . . showing daily an exceptional capacity to deal with problems which the ordinary clerical officer could not touch', Wickens was also a strong advocate of the claims of the Bureau clerical staff generally for a review of their status and salaries. The staff themselves drew attention to the growing complexity and wider scope of their duties resulting in part from the removal of their headquarters to Canberra in 1928:

Since the transfer of the Bureau to Canberra it has been brought into closer official proximity to other Departments than was formerly the case in Melbourne, with the result that the central staffs are now availing themselves more and more of the services of the Bureau. In fact there are very few questions of political or of other importance which arise without the Bureau being asked to prepare and submit some matter on the subject.⁸⁹

In a memorandum to the Secretary of the Department of Home Affairs in January 1930 supporting renewed representations by his staff, Wickens alluded incidentally to the progress

towards unification of statistics under his stewardship:

. . . it cannot be too strongly stressed that this Bureau, being recognised universally as the coordinating, interpreting and publishing authority in respect of statistics for the whole of Australia, the responsibility for accurate and comparable information is very great. It is in this regard that the work of the Annual Statistical Conferences has its origin, the Bureau in the majority of cases taking the initiative towards securing uniformity in collection and presentation.⁹⁰

In regularly bringing together the statistical fraternity, Wickens reversed the practice of Knibbs who eschewed conferences after 1906. Those statisticians who were most resistant to what they saw as Commonwealth incursions believed, as H. A. Smith of New South Wales advised his government, that 'All desirable uniformity can be obtained readily through periodic conferences of Statisticians'. While conceding that there was some apparent duplication in the collection of vital statistics, and information on wages, prices, banking, and insurance, the overlap was more nominal than real, Smith contended.⁹¹ In the event, a succession of annual conferences (interrupted in 1927 by several overseas absences) had brought increasing co-operation and rationalisation.⁹² Although the Victorian Government offered to transfer its bureau to the Commonwealth in 1925, Treasury insisted that the federal financial program made it impossible for the Victorian offer to be accepted. Wickens had to admit by February 1930 that, notwithstanding the stalling of unification, the conferences had been 'effective in greatly improving the statistical work of Australia and in bringing about certain of the improvements aimed at in the proposals for unification'. He remained convinced of the desirability of unification but realised that there was no prospect of a national government voluntarily assuming the additional £40,000 a year he estimated as the cost of performing the work being done by the States.⁹³

Forty permanent officers of the Bureau and four temporary staff were transferred from the Rialto Building in Collins Street, Melbourne to Canberra in July and August 1928. Accommodated initially in the Commonwealth offices at 'West Block', they made detailed plans to move to the Hotel Acton only to be informed at the end of June 1930 that this supposedly cost-saving relocation could not proceed because of 'the present financial situation'.⁹⁴ A more serious problem was the scarcity of housing for single officers of whom 23 were placed in boarding houses or private billets. Wickens was particularly concerned about the female staff. It was desirable, he submitted that they be housed together:

. . . so that the elder girls may be able to look after the younger girls to some extent, and in the majority of cases the parents have made it a condition of the girls coming to Canberra that Miss Paterson or Miss Miller will look after them. If they are to be housed in different hostels this will be impossible . . . There is also a strong objection by all the girls to sharing a room, and this condition may preclude some from coming to Canberra. It will be seen, therefore, that apart from the wishes of the girls, the position in its effect on the work of the Bureau may be very serious as trained Hollerith Machine Operators are extremely difficult to get owing to the limited use of the machines in Australia.⁹⁵

Anticipating further difficulties in assembling in Canberra the army of temporary staff that would be needed for the 1931 Census, Wickens had warned in March 1928 that it might be necessary to establish a census branch in either Melbourne or Sydney. The prospect of additional expense as well as the practical problems of attracting and housing an influx of census workers to the bush capital contributed to the misgivings of the Scullin Government about with the 1931 Census. As the financial situation deteriorated, fears that the Ministry contemplated abandoning Canberra altogether were reflected in a special written article in the 1931 **Year Book** on 'Canberra, Past and Present', a plea for the viability of the national capital.

Planning for the Census had begun in 1928 and Wickens recommended that the date be set by proclamation for midnight, 30 June 1931. In advice to his permanent head, he outlined the

additional questions which had been agreed at a conference of statisticians in September 1929:

- (i) Race, (particularly whether of European race or not).
- (ii) Whether on active service abroad during the war of 1914-18.
- (iii) Income group in the case of persons with annual incomes of £300 or less.
- (iv) Unemployment, time lost and cause.
- (v) Number of dependent children.
- (vi) Number of horses and poultry.

The question on income was modelled upon one included in the New Zealand censuses of 1921 and 1926. Because information was already available on incomes greater than £300 through income tax statistics - which Wickens argued should be tabulated annually by the Bureau - the question was limited to income of £300 and below. Nevertheless, the introduction of any inquiry into income in an ordinary census was, Wickens believed, unique 'in any part of the world except New Zealand'.

Compared with Britain and most of the Dominions, however, Australia was deficient in orphanhood data. The draft 1931 schedule therefore required all persons under fifteen years old to state whether their parents were living or dead. This useful additional information was, to the chagrin of later generations of demographers, gained in substitution for fertility data - the question on children from existing or previous marriages being dropped 'owing to the labour and expense involved'. One of Wickens' major preoccupations after the 1921 Census had been classification of industry, occupation, and grade of labour. Paying tribute to what Wickens (and his successors) had achieved, Giblin concluded in 1936:

We shall henceforward be able . . . to compute accurate birth rates, death rates, and marriage rates by industries and occupations, and so get for the first time information about different fertility and reproduction rates in respect to occupation.

Unfortunately, the wording of the relevant question blurred the intended sharpness of distinction between industry and occupation. Nevertheless the Census was to yield fuller information on economic condition and status by industry and occupation than ever before.

For the administration of the census it was intended to follow the practice introduced in 1921 of using electoral office staff as collectors. In order to ensure proper supervision, Wickens first proposed that 'the whole work of coding, punching and tabulating the data' should be carried out in Canberra. But the realisation that sufficient temporary staff could not be found in Canberra, combined with the knowledge that the whole census exercise was expected to cost £316,000, was enough to convince the government that postponement of the census had to be considered. With the financial crisis deepening, the Minister for Home Affairs, Arthur Blakely broke the news personally to Wickens on 6 February 1930. 'I very greatly regret the necessity which has arisen for even considering such a proposal,' Wickens responded, 'but I realise that when a position arises which is as serious as the present every possible sacrifice must be made to balance our budget'. (On the same day, the Prime Minister and Treasurer issued a joint statement denying rumours that Australia was about to postpone interest payments on its overseas loans.)

Amending legislation was passed in time to allow for a later census. While sharing the sentiments of his State colleagues, who moved a mild remonstrance at their meeting in Brisbane in May 1930, Wickens admitted to being impressed with the view expressed by the Prime Minister 'that the owner of starving stock would be better advised to spend existing funds in feeding them than in counting them'.⁹⁶ It was the newly elected Lyons Government which perceived that it was possible to feed at least some of the starving stock by counting the others. On 1 July 1931, the Labour Ministry had decided to further defer the census from 1933 to 1935. But in January 1932, Archdale Parkhill took the question to Cabinet with the strong recommendation of the Acting

Commonwealth Statistician in favour of the earlier date. Revised estimates suggested a total expenditure of £275,000 mostly over the period 1932-36, with the possibility of off-setting revenue from 'advertising on the census schedules'. A more compelling argument was that 'approximately 80% or £220,000 would be disbursed directly as wages'. When the statisticians met in conference in Sydney in August 1932, they pressed in addition for the allocation of some unemployment relief funds to 'the employment of clerical workers for working up valuable material which lies unused in the offices of Statisticians'. The statisticians did, however, agree to omit questions on loss of limb or eye, ability to read and write English, materials of roof, and horses and poultry (except in Victoria).

In inviting the federal government to be represented at the Sydney conference, the New South Wales Premier, J. T. Lang, had written:

As no conference has been held since May, 1930, the need for a general meeting has become urgent since, in addition to the old problems which are awaiting a definite decision, and consequent action, a great variety of new difficulties now confront the statistician owing to the great divergence of the Australian pound from the pound sterling and of sterling from gold.

In 1930, it had been resolved that each State would supply the Commonwealth with as much information as possible 'in respect of the existence of unemployment and of the results of efforts to relieve it'. By August 1930, it was agreed that monthly reports 'embodying any information available from State sources on unemployment' should be circulated. But, in resigned recognition of the inadequacy of their statistical endeavours in the face of the economic catastrophe, it was noted that 'unemployment registrations were of very doubtful significance, but that expenditure on unemployed relief would often give useful information'.⁹⁷

Pressure to hold the census in 1933 came from a variety of groups including the Australian Association for the Advancement of Science and the Federated Clerks' Union, the latter sending a deputation to the Minister on 14 April 1932. The clerks pointed out that their members were often the first to be laid off in hard times. They were also unsuited for the manual labour available under the State governments' relief schemes. With '10,000 unemployed clerks' awaiting his decision, the Minister capitulated. In spite of early hopes to employ cheaper female staff, the Bureau was bound by government policy to give preference to returned servicemen. Of the many applications and recommendations none is more poignant than the war historian C. E. W. Bean's letter on behalf of a former captain of his old school, Clifton College ('also the school of Haig and of Birdwood'):

He is at present getting one day a week's employment as tally clerk on the Brisbane wharfs [sic]. He fought with the A.I.F. - not in any cosy capacity either but, as you would expect of a first class cricketer and footballer, in the thick of it . . . he is unmarried, but I do hope that he will have a chance of employment in Canberra.⁹⁸

The recruitment of temporary staff (and their eventual return by rail at Commonwealth expense to the capital city nearest their home) absorbed considerable energy at senior levels of the Bureau.⁹⁹ But of more lasting significance were the promotions and appointments that followed the prolonged sick leave and eventual retirement of Wickens. For some time following the move to Canberra, Wickens had begun to show signs of strain. In mid-1929 he was forced to take two months' leave. 'My illness has been variously described in the press as a seizure and a stroke', he told A. W. Flux of the British Board of Trade on 8 July 1929, 'but if it was either the one or the other, the seizing or the striking, whichever it be, was done very gently . . .'¹⁰⁰ A year later he was absent for a fortnight with 'nervous dyspepsia'. These gentle warnings came in the midst of a cycle of ever more demanding activities. In addition to the ordinary work of the Bureau, and the progressive practical and conceptual refinements that accompanied the regular conferences with the States, Wickens was personally involved in a series of tasks for which his expertise made him the government's logical choice. He was frequently called on to advise the Royal

Commission on National Insurance from 1924 onwards. In 1927 he represented Australia in England at a conference of actuaries and made extensive investigations in Geneva, Berne, and Berlin into social insurance leading to the preparation of the national insurance legislation presented to Parliament by Dr Earle Page in September 1928. Subsequently, Wickens took the leading role in investigating for the federal Cabinet the possibility of applying national insurance to workers' compensation, child endowment, widows' pensions, and government superannuation schemes. These complex matters were on the agenda of a conference of Commonwealth and State Ministers in May 1929 but were set aside after the defeat of the Bruce-Page Government and the onset of the economic depression.

Wickens gave evidence on statistics to the Royal Commission on the Constitution (1927) forcefully criticising Australia's failure to supplement production statistics with interstate trade statistics. He prepared statistics and gave evidence to the Royal Commission on South Australian Finance (1928), and supplied both data and personal assistance to the British Economic Mission (1928). In collaboration with J. B. Brigden, Douglas Copland, E. C. Dyason, and L. F. Giblin (now a Professor at the University of Melbourne) he produced at the request of Prime Minister Bruce the important study, **The Australian Tariff An Economic Enquiry** in 1929. During 1928 and 1929 he also assisted the Attorney-General's Department in drafting a life insurance Bill. In the following year he was called on to furnish material and appear as a witness before both the Coal Commission and the Parliamentary Accounts Committee (on 'Tasmanian disabilities'). He was a special crown witness before the Commonwealth Arbitration Court in the Basic Wage case and was subjected to lengthy cross-examination by all parties. Other matters claiming his attention included a wrangle with Trade and Customs over adherence to a League of Nations convention on trade statistics and the additional burden of organising the supply of information for the world agricultural census sponsored by the International Institute of Agriculture.¹⁰¹

So overwhelmed was Wickens that in December 1929, hardly the most favourable time, he petitioned for the creation of a new position of Assistant Statistician. The appointment was warranted, he said:

by the growth of the functions of the Bureau, and the extent to which the services of the Statistician are requisitioned by various departments in respect of statistical and actuarial matters. In addition . . . there are at present under consideration certain proposals for extending the tabulation . . . of trade statistics and of statistics of taxation. Any such development will necessarily create heavier responsibilities for staff organisation and control and will warrant a corresponding strengthening of the administrative section of the Bureau.

The requested relief was not forthcoming. Instead, apparently without comprehension of the magnitude of their request, the government added still further to the Bureau's work by seeking answers to 29 questions on the cost of living, national dividend, wages, taxation, housing finance, exchange rates, costs of production, and unemployment. Had the Labour Government proceeded with a proposal of their predecessors to create a Bureau of Economic Research, the burden of these wide-ranging inquiries would not have fallen on the Statistician. But, although the legislation had been passed, Labour shelved a project which was suspected by some as a device for subverting the Arbitration Court's independence in wage fixation. Worn out by his endeavours, culminating in the preparation of a statement for the Prime Minister's Department on the advantages to the secession-minded Western Australia of remaining in the federation, Wickens succumbed to a cerebral seizure on the afternoon of 2 February 1931. When it became clear that he was unlikely to return to duty the government took the opportunity to invite Giblin to act as Statistician on the understanding, as Giblin recorded, 'that I should be sufficiently relieved from administrative routine to be able to give the greater part of my time to special investigations required by the Minister'.¹⁰² Giblin's special position was demonstrated by his additional title of Chief Economic Adviser.

The advent of Giblin, who remained Acting Commonwealth Statistician until the end of 1932, accelerated a change in the role of the Bureau which had been gathering momentum under Wickens. Although Wickens, a self taught actuary, was best known for his demographic work, he was also highly respected in the small fraternity of Australian economists. He corresponded with Giblin over fluctuations in exchange rates, exchanged views on Keynes' **Tract on Monetary Reform** ('involves a good deal of unlearning of other theories which regard gold or similar basis as a **sine qua non**'), and joined with Copland, Giblin, and others in forming the Economic Society of Australia and New Zealand. In the Economic Society's journal, **The Economic Record**, he published articles on public debt statistics, 'productive efficiency', the 'relative significance of primary and secondary production', the statistics of factory output and Australian industry, and comparative costs of living. In October 1930 he reported to the Acting Prime Minister on 'stability of currency'. The report was leaked, then released, precipitating criticism of its reflationary recommendations. His responsibility for price indexes also brought Wickens into the centre of the political controversy surrounding the Arbitration Court's basic wage hearings and eventual decision in January 1931 for an emergency ten per cent reduction in wage rates. Having initiated revision of the wholesale price index regimen and the introduction of indices for all capital cities to complement the Melbourne index, he renovated the retail price index by shifting its base from 1911 to the average of the years 1923-27, 'a period in which there was relative stability of prices, and from which there is no evidence of a prospect of marked deviation in the near future'. He then turned to other problems including the collection of information on new capital issues and 'the difficult matter of securing reliable data as to the so-called invisible imports and exports' ¹⁰³

In all of these activities, Wickens and the Bureau were drawn ineluctably into public prominence, a development which was discomfiting to his principal subordinate, Stonham. When the statistician begins to 'meddle with economics', Stonham wrote a little later:

. . . he is liable to incur political odium and to have his standing as a Statistician impugned. (Mr Wickens had an unfortunate experience in this respect as regards currency inflation, the disabilities of Tasmania under federation, and so on) . . . it is unwise for the statistician to enter the arena of public controversy. The late Sir George Knibbs resolutely set his face against it, and, in fact was opposed to appearing in the Arbitration Court. ¹⁰⁴

In reality, Knibbs had never shied from publicity, although he preferred to expose the labour branch head Gerald Lightfoot to cross-examination in the basic wage cases.

Stonham's fundamental objection was not so much to the public profile of his former chief who was an eminent and professionally qualified statistician. Nor was he objecting to the close involvement of Giblin, whose standing both as a statistician and as an economist placed him in a category of his own, in the government. (As Chief Economic Adviser, Giblin attended the Premiers' Conference in May 1931 where he came in conflict with J. T. Lang.) By 1933, the issue was different: what should be the role of an economist with no traditional statistical background in the senior management of the Bureau?

FROM WILSON TO CARVER

The economist in question was Dr Roland Wilson, a protege of Giblin's who had acquired doctorates from Oxford and Chicago and lectured for eighteen months at the University of Tasmania before being installed at a desk in the Statistician's room in February 1932 to assist Giblin on his policy assignments. Wilson has recalled:

It was L. F., as we used to know him, who brought me to Canberra as a back room boy in the Treasury, allegedly for six months. Those were the days when the only graduates in the Public Service were doctors or lawyers, or a few who did part-time courses after they were appointed. I had to be disguised by being put into the Stats. office as a clerk. But on my first day, lo and behold, there was a stop work meeting. They didn't like the idea of this

graduate coming in and threatening their futures. . .

Notwithstanding Giblin's assurance to the staff that Wilson's appointment was only for six months, in December 1932 Wilson was gazetted into a newly created post of Economist at a salary of £970 a year (nearly £300 a year more than the Editor, Stonham, and the Deputy Statistician in Tasmania, H. J. Exley). Wilson's promotion coincided with the return of Giblin to the University of Melbourne, and the appointment of E. T. McPhee to succeed him. McPhee, a Bureau veteran recruited from Tasmania in 1906, had returned from Melbourne to Hobart as Deputy Statistician when Giblin originally left for Melbourne University. He was already 63 in 1932 and apparently accepted the promotion to Canberra on the basis that Wilson was to be groomed as his successor. Wilson himself was not immediately aware of this plan and, in view of the resentment that had greeted his arrival, he could have been forgiven for not foreseeing that five days after his 29th birthday, McPhee would recommend that 'during future absences of the Commonwealth Statistician, the Bureau shall be under the control of Dr Roland Wilson, if he is present'. In explaining the recommendation (and the protest from Stonham which it provoked), McPhee wrote to his permanent head on 12 April 1933:

I understand that when Dr. Wilson joined the Bureau he did not wish to identify himself with the compilation of the statistics, and did not anticipate that he would be called upon to direct this work in a large measure. From his experience in the Bureau, however, Dr. Wilson has formed the opinion that an intimate knowledge of the various branches of statistics is essential to their proper economic interpretation and he is no longer averse from taking a part in this work.

It is also, I think obvious that as economic opinions must rest largely on statistical evidence, some knowledge of economics is essential to the proper selection of statistical data which should be compiled for the guidance of publicists, and to the direction of analyses which should be made of that data by the statistical staff. I feel that statistics and economics are so closely associated that in practice they are inseparable.

Dr. Wilson during his association with the Bureau, has had frequent conferences with heads of sections or departments of the Bureau work and is almost daily in consultation with one or other of these officers. Consequently Dr. Wilson has acquired a knowledge of the fundamental details of much of the work, and has contact with the daily affairs of the Bureau. The members of the staff readily seek his assistance when they feel the need of it. ¹⁰⁵

Quite apart from Wilson's outstanding ability and training, which put him in a class apart from his talented Tasmanian near contemporaries, Archer and Solomon, what McPhee was testifying to was a basic rethinking of the Bureau's purpose and orientation. The new era was signalled in the **Year Book** for 1932. Issued by McPhee under instructions from the Treasurer, to whom the Bureau now reported, the **Year Book** acknowledged the contribution of Giblin as 'consultant economist.' Publication had been delayed so that the latest statistics relevant to the financial and economic crisis could be incorporated, and the preface pointed out that current conditions had created a demand for 'new information' on trade, production, and industry.

The demand, of course, was for understanding as well as knowledge, for policy prescription as well as diagnosis. From the mid-1920s onwards the Bureau operated in a disconcertingly evolving institutional landscape. A succession of temporary and permanent commissions and inquiries jostled for territory with emerging academic and bureaucratic rivals: the Tariff Board, the Development and Migration Commission, The Royal Commissions on National Insurance and Child Endowment, the British Economic Mission, the Loan Council, Premiers' Conferences, and always the Arbitration Court. The Economic Society, the Australian Institute of Political Science, and the Institute of Pacific Relations provided forums for informed exposition and debate. The Commonwealth Bank occupied much of the policy domain which was increasingly contested by the federal Treasury after the appointment of H. J. Sheehan as Secretary in 1932; and the Bank, stimulated by the visit of Sir Otto Niemeyer and Professor T. E. Gregory in 1930, began to tabulate a range of banking, price, trade, railway, building, assurance, postal, bankruptcy and

electrical power consumption statistics to indicate business conditions. A further sign of the times which Wickens had brought to Scullin's attention in February 1930, was the establishment in Queensland of a Bureau of Economics and Statistics under J. B. Brigden. By mid-1931, Brigden was producing an innovative Queensland business index.¹⁰⁶ Arriving at the Bureau in Canberra when the trauma of depression had placed a high premium on the advice, albeit often contradictory, of economists, Roland Wilson found a fertile field for reform and expansion. The new Secretary to the Treasury, H. J. Sheehan, was inclined to take a more active part than his predecessor in economic policy-making but he lacked the resources and expertise that were directly at Wilson's disposal. Within two years, McPhee and his political masters were convinced that the Bureau could confidently be passed into Wilson's hands. The Assistant Treasurer, R. G. Casey, had at first been inclined to look to England for McPhee's successor; but Giblin persuaded him that British statisticians were too specialised and 'would take several years to learn the job in Australia'. Giblin convinced Casey that:

Wilson is the obvious man for the job, but that we should keep McPhee on as long as possible in order to give Wilson as much opportunity as possible of picking up the multitudinous threads of the job.

McPhee had been effectively deprived of 'three or four of his best men away on the Census job'. But Giblin believed that 'if Wilson has a good economic offside, he should be able to give a fair amount of attention to specific Treasury problems'. In a parting public statement, the retiring Statistician confessed 'I have had enough of it':

The last three years have been very strenuous . . . The extensions of the functions of government and the continually increasing complexity of the social structure demand a continual expansion of the field of statistical inquiry. There is now an army of economists confident that, given sufficient bricks of the right type and quality, a way can be cleared to heaven. It is the statistician's job to provide the bricks.¹⁰⁷

It was unnecessary for Wilson - whose inclination for a policy role was no secret - to proclaim that he had every intention of building the path as well as making the bricks.

Writing in the first issue of **The Economic Record**, in November 1925, Professor Douglas Copland had lamented that 'Economic research and advice is not recognised as necessary for good government . . . The neglect of economic research could partly be explained, Copland suggested, by 'the excellent service rendered by the extensive statistical bureaux of the Governments'. The early volumes of **The Economic Record** gave glimpses of the professional quality and interests of several of the Commonwealth Bureau's staff. E. T. McPhee reviewed books on tariffs and trade, and H. J. Exley, J. F. Barry, W. T. Murphy all contributed articles. J. T. Sutcliffe, already the author of books on Australian trade union history and 'The National Dividend', the latter a pioneering work on national income estimation, defended the Bureau's popularly misnamed 'cost-of-living' index and its unemployment statistics.

But, while the incomparable Giblin remained a regular contributor, even while he was directing the work of the Bureau, the significant initial participation of Bureau staff was not sustained. By the time young Dr Wilson was making tart comments in footnotes in 1931 ('A little more consistency in official statistics relating to such a comparatively simple matter [interest and dividend payments abroad] would not be amiss.') no one emerged to reply.¹⁰⁸ A new generation of economists had seized the intellectual initiative by the early 1930s. Copland's students, E. K. Heath and J. Polglaze, for example, set out in 1932 to prepare an index of business activity and found official statistics to be 'quite inadequate necessitating recourse to unofficial statistics'. In 1933, Dr F. R. E. Mauldon, Senior Lecturer in Economics at Melbourne University, in a pamphlet based on a series of broadcasts on 3AR, identified 'some gaps which have still to be covered in the whole field of Australian economic statistics', which might well have been listed on a reform agenda for the Bureau:

We need more frequent census-taking . . . especially in view of inter-state migration, and it would be of great value to have enquiries made concerning wealth and income at the same time . . . In gathering statistics of the production of wealth in Australia the extent of crop failure areas in the total areas under crop in a season is a present serious omission . . . On the mining, manufacturing and building construction sides of production we need to know monthly values and /or quantity of output for all states. To clarify our knowledge of industrial and commercial structure...we ought to have data of the size of manufacturing establishments and of the character of ownership (individuals, registered companies, partnerships, co-operative societies, etc.) as distinct from numbers of establishments, or sections thereof, engaged in productive processes. We ought further to have enumeration and classification of wholesale and retail business, records of amalgamations, and records of the nature and membership of trade, primary producers' and industrial associations for mutual interest in business. .

Mauldon added that statistics of interstate trade should be reviewed and that data on marketing costs, productivity, labour turnover, labour migration, employment, and prices needed to be assembled or augmented.¹⁰⁹ For Wilson, however, the first priority had been the balance of payments. When his special chapter for the 1934 **Year Book** was circulated in advance, Giblin applauded 'this brilliant attack on one of the most important and difficult of statistical problems'. (Brilliant though it was, Wilson's treatment appalled Stonham who, as editor of the **Year Book**, found himself from 1932 onwards obliged to publish tables spattered with question marks where tradition dictated unambivalent precision.) The Conference of Statisticians in Canberra in March 1935 devoted its energies to Wilson's next major concern, production statistics, and agreed on new definitions and procedures covering agricultural, pastoral, and dairying production, mines and quarries. A start was made also on getting the States to prepare a 'key' plan to the statement of social services expenditure by 'functions with a dissection of all group or composite items. Although McPhee told a British correspondent in January 1935 that the greater part of Wilson's time had 'unfortunately...been claimed by the Treasury', Wilson had in fact found it hard to resist probing into most aspects of the Bureau's work. As he told the Secretary of the Treasury in supporting the case for his attendance at the Ottawa conference of Dominion statistical officers:

There are a number of subjects on the agenda on which I have been doing a great deal of work lately . . . (especially methods of compiling various indexes of prices, methods of calculating invisible items in the trade balance, and classification of commodities on a comparable basis in trade, production and price statistics).

In an interview in 1984, Wilson recalled:

. . . the more I poked into the compilation of statistics, the more disgusted I got. So it was one subject after another trying to find out just how the figures got put together . . . For instance, the retail price index . . . we were supposed to get returns from every state from a selected number of retailers, the price of a pair of curtains, otherwise undefined. When I looked at it I found the prices varied in some states from 6/lid, to 96/lid. There might be three or four quotes that were solemnly averaged, and that was the price of a pair of curtains.¹¹⁰

Wilson's appointment as Commonwealth Statistician and Economic Adviser to the Treasury was effective from 29 April 1936. On that day, a congratulatory deputation led by Horace Downing who had been to the fore in the office protest against Wilson's arrival in 1932, let their new chief know that they thought him the best man for the job. The next day, Wilson called on the Secretary to the Treasury to ask for substantial funds to 'reconstitute' the retail price indexes. 'It hasn't taken the new broom very long to sweep clean, has it?' Harry Sheehan remarked. But the money was found. So too, but more tardily, was approval eventually given for Wilson's scheme to create a new employment category - the research officer - to remedy the Bureau's shortage of staff versed in the economic and technical skills which a changing political environment made necessary. At first, however, he had to rely mainly on such advantage as he could derive from section 36A of the Public Service Act (a 1933 amendment) under which up to ten per cent of each year's appointments to the third division could be of university graduates aged up to 25. (He also contrived to appoint the first female librarian in the Commonwealth Public Service, by devising 'a set of qualifications with appropriate weighting' which ensured the selection of Miss

During the overseas study tour that was planned around his visit to Ottawa, Wilson reported enviously to his political master, R. G. Casey, on the vast resources available to the various American statistical bureaus and New Deal organisations like the Works Progress Administration (WPA), Agricultural Adjustment Administration (AAA), and National Recovery Administration (NRA). 'Doctors of philosophy are as common as sheep in Canberra, and young graduates from the universities simply infest Washington, especially in the new alphabetical agencies.' At Casey's side in Canberra at the time were the young Melbourne commerce graduate J. F. Nimmo, and Wilson's own if assistant economist, Arthur Smithies, whose career - from Hobart to Oxford to Harvard and thence via a teaching post at the University of Michigan to the Bureau as Assistant Economist in July 1935 - had eerie echoes of Wilson's. With Smithies to understudy him on economic policy, Wilson had promoted H. C. Green from Supervisor of Census to Assistant Statistician at a salary 50 per cent higher than the next most senior officers (though less than half of Wilson's own salary).

In Casey, the Bureau found what no previous Commonwealth Statistician had enjoyed - a Minister who as Assistant Treasurer from September 1933 and Treasurer from October 1935 onwards, was intellectually engaged, influential and, above all, in office for long enough to establish rapport with his advisers. In Wilson, Casey found a mind he could respect and an undisguised expertise of which he was occasionally wilfully sceptical but more often in awe. Jocularly, Casey had sketched the basic problem for Wilson to address in August 1935:

I am more modest than most - all I want to know is what we should do within Australia to get things moving more quickly without unduly increasing the national debt, and the interest bill, without indulging in what might be described as inflation without risking an undue rise in the exchange rate with sterling.¹¹²

Fortunately for the Bureau, an economic revival, for which government could take only small credit, ensured that the reputation of its head was not prematurely jeopardised by questionable diagnoses and policy recommendations. By 1937, the Conference of Statisticians had clearly passed from a world of crisis to one in which it was possible to discuss without anxiety 'matters of statistical importance relating especially to factory output and retail prices'.¹¹³ There was time to reflect on such anomalies as the entirely different meanings of wholesale price indexes in Canada and Australia, and the impossibility of collecting in Australia the kind of data on private finance which was routinely gathered in New Zealand. While for those who pressed the Bureau to publish an index of manufacturing production, Wilson confessed to the Economic Society in Melbourne his suspicion that 'the whole concept of the quantum of manufacturing production' might be 'a mere mirage which lures succeeding generations of statisticians to an untimely and unhonoured end'.¹¹⁴

A Monthly Review of Business Statistics was added to the Bureau's list of publications in 1937.¹¹⁵ The following year, the 'A' series retail price index, launched in 1912, was discontinued. The much renovated All Items ('C' series) index was to survive until 1960 when it was replaced by the Consumer Price Index. Wilson's substantial revision of the 'C' series regimen was agreed to in the 1936 Conference of Statisticians. To the Bureau's satisfaction, the Conciliation and Arbitration Commission adopted its own 'Court' series in 1937 primarily, as the Bureau's **Labour Report** explained in 1943, 'for the purpose of removing conditions which tended to engender the impression that the Commonwealth Statistician was in some way responsible for the fixation and adjustment of wage rates'.¹¹⁶

Averse as he was to bearing the imputed responsibility for wage rates, Wilson needed no convincing of the necessity for private enterprise to be 'subject to more conscious supervision and . . . more adequate guidance than has hitherto been available'. He had proclaimed in 1934

the need for 'a more vigorous and national control of the machinery for creating and distributing purchasing power'.¹¹⁷ As governments universally awakened to a similar need and potential for action, the publication of J.M.Keynes's **General Theory of Employment, Interest and Money** in 1936 crystallised a revolution in economic thinking. Keynesian analysis gave a new relevance to economic statistics, particularly to estimates of national income. A pioneer in national income studies, Colin Clark, was appointed to succeed J. B. Brigden as Director of the Queensland Bureau of Industry in 1938. Dr H. C. Coombs, who came to Canberra after the outbreak of war in 1939 as Economist to the Treasury to assist Wilson and Giblin, recalls that:

with Clark's adventurous simplifications and estimations it became possible to produce estimates contemporaneously, and indeed, by judgment of current trends, events and policies, to produce forecasts some time ahead. For this process the relationships of the Keynesian model of the economic system provided a framework. Better data began to be assembled, techniques improved, and the estimates began to be used, not merely for historical purposes but for analysis; with results which appeared to justify their services.¹¹⁸

With preparations for war a growing preoccupation of the Lyons Government, the leader of the Country Party and Minister for Commerce, Dr Earle Page, asked the Statistician to prepare a comprehensive plan for industrial development and defence to be put to the State governments at the next Premiers' Conference. Wilson's submission to Page, on 1 November 1938, advocated the creation of a council for industrial development with an executive officer and secretariat linked to a network of specialist committees. Neither this visionary scheme, nor an alternative devised by Page and his permanent head, came to fruition.¹¹⁹

Concerned to strengthen the government's capacity to stimulate and steer the economy, Wilson had proposed as early as 1934 the creation of a central 'thinking agency'. With the coming of war in 1939, the climate was more propitious for a 'central thinking committee'. An Advisory Committee on Financial and Economic Policy, set up late in 1938 to advise the Department of Defence and associated with the new Department of Supply and Development under R. G. Casey from April 1939, was now attached to the Treasury and rapidly granted a broader mandate. The Bureau undertook staff work for the 'F & E' Committee.

From his vantage point on the committee Wilson argued in July 1940 for the establishment of a Department of Labour and National Service with responsibility for vital manpower and labour issues.¹²⁰ On his appointment late in 1940 as Secretary of the department he had proposed, Wilson successfully recommended S. R. Carver, Government Statistician of New South Wales since 1938, to lead the Commonwealth Bureau during his absence. 'It is intended that Dr Wilson should resume duty as Commonwealth Statistician as soon as the new Department is satisfactorily established, which I hope may be in six to nine months' time,' Prime Minister Menzies assured the New South Wales Premier. Carver was expected to spend only four days a week in Canberra and his duties would not extend to any of the committee work or the role of Economic Adviser played by Wilson.¹²¹

Stan Carver, a highly respected statistician, had begun to make his mark in the late 1920s and was appointed Assistant Government Statistician in 1933. In 1936 he visited Britain with the Premier of New South Wales where he called on J. M. Keynes and met the young lecturer in statistics, Colin Clark. His 'extensive unpublished research' on the distribution of income in New South Wales had been prominently used by Colin Clark and J. G. Crawford in **The National Income of Australia** (1938). Outstandingly able as he was, he faced enormous problems in a poorly co-ordinated and rapidly evolving wartime administration. The six months transfer he had accepted was to stretch to the end of the war and beyond. The 'censorship complexity, new income tax data, casualty data and the half dozen other special matters' which he had expected to 'represent a fairly heavy addition to the usual flow' of Bureau work were swept up in a torrent of unanticipated demands. In January 1942, for example, Carver 'became extremely busy on the organisation of the War Statistics Section, which required me to spend a considerable time in

Melbourne'. Immediately thereafter he was 'still more heavily occupied in assisting the Director-General of Manpower in the preliminary stages of organising the Civilian Register'. During 1942 and 1943 an 'army census' was carried out and a ten per cent sample was tabulated.¹²²

By mid-1943 it had become necessary to reorganise the management of the Bureau to provide more effective support for the Acting Statistician. The Public Service Board approved the temporary elevation of S. E. Solomon from Chief Research Officer to Assistant Statistician (War Statistics) and J. Barry from Senior Clerk and Supervisor of Census to Assistant Statistician (Administrative). J.C Stephen and K. Archer were also reclassified to handle production and food statistics, and State liaison and 'emergency statistics' respectively. Simultaneously, a brilliant young clerk, H. P. Brown, was promoted to Research Officer. The Secretary to the Treasury had expressed the 'fear that Mr Carver has been endeavouring to handle personally too many of the new problems which have arisen with war-time conditions . . . Although Carver was, and remained, an inveterate perfectionist, necessity imposed a greater degree of delegation than he was able to concede in less demanding times. A further reorganisation in September 1944, consequent on Solomon's return to Queensland, saw Barry promoted to Assistant Statistician, and 'second in charge of Bureau'.¹²³

The official histories of Australia in World War II have provided authoritative accounts of major statistical endeavours on manpower, production, price control, rationing, and other problems of war. It is clear that the Bureau was overwhelmed by a range of tasks for which it was unprepared and under-staffed. 'Our pool of officers is about dry,' Carver confided to O. Gawler, the Victorian Statist on 9 February 1943, 'we have "diluted" to and beyond safe limits . . . Statistical units sprang up to meet the pressing needs of particular departments, but their work was usually narrowly focussed and of transient value. The Bureau itself lent officers to liaise with military authorities or to assist other organisations such as Food Control, S. J. Butlin, himself the Director of the Economic and Statistical Division of the Department of War Organisation of Industry from December 1941 to January 1943, concluded in retrospect:

Perhaps the worst result of all was that a 'particularly scarce form of skill was dispersed in isolated sections which it proved impossible to integrate into a single statistical service. The most remarkable achievement, later in the war, of the Acting Statistician was his high degree of success as a peripatetic diplomat in informal coordination of the work of these scattered workers.'¹²⁴

THE POST-WAR AGENDA

In January 1944, the Director-General of the Department of Post-War Reconstruction, H. C. Coombs, pronounced:

The fatalism which regarded the fluctuations of economic activity as something we must take for granted, and the miseries which attended them as inevitable burdens which we must patiently bear, was the first casualty of the war.¹²⁵

The government's commitment to a 'full employment' policy, embodied in a White Paper published in 1945, had great significance for the future scope of the Bureau's role. Stan Carver presciently warned that 'to encourage the belief that it is within the Government's power to maintain a long-term high level of employment was to manufacture political dynamite'. It was also to manufacture a formidable burden for the Bureau. As early as November 1944 Carver commented that 'the post-war deluge of statistical development has begun and we are in no position to meet it with so much personnel away'.¹²⁶

In a memorandum to Carver on 30 October 1945, Coombs sketched the improvements in the range and timeliness of statistics that were essential to full employment planning. Monthly or

'preferably weekly' information on employment, expenditure, and stocks, necessarily compiled on a sample basis, were required. The National Register of July 1939 had revealed unemployment considerably exceeding estimates based on trade union and other customary sources. More frequent censuses or occupational surveys were 'the only means of checking the validity of estimates of total employment, based [since 1941] on Pay Roll Tax and other miscellaneous data, of the number of employed and workers on their own account and of the number unemployed'. Unemployment statistics were now to be tabulated from the records of applicants under the Unemployment and Sickness Benefits Act. (The responsibility for compiling uniform unemployment statistics passed to the Commonwealth Employment Service in 1946.)

For information on past and prospective private capital expenditure, Coombs recommended twice yearly returns from manufacturers, large pastoral and mining companies, construction contractors, private utilities, transport companies, banks, insurance offices, wholesalers, large retailers, 'chain' hotels, restaurants, and theatres. Monthly output statistics for capital goods - the value of output and the volume of production where available - were also to be collected. Motor vehicle, building, and consumer durable expenditure information were desirable as were data on stock volumes. Believing that variations in public capital expenditure would be 'the most important means of affecting fluctuations in other types of expenditure in order to maintain full employment,' Coombs emphasised the necessity both of historical data and forecasts of expenditure and employment on public capital works. The era of national income and expenditure estimates had begun.

Summarising his paper in seventeen recommendations, Coombs concluded that 'as far as practicable, all important statistical information should be tabulated according to the regions determined by each State for purposes of regional planning'.¹²⁷ (This visionary proposal, far beyond the resources or the political will of the mid-1940s, was to be revived in the 'urban and regional budget' project undertaken collaboratively by the Bureau and the Department of Urban and Regional Development under the Whitlam Government.) The Department of Post-War Reconstruction participated in a sub-committee of the Conference of Statisticians held in November 1945 which reported on the statistics needed in connection with employment policy. Papers from Post-War Reconstruction and the Commonwealth Bank amplified the outline of 'Essential Information' which had been incorporated in the White Paper on 'Full Employment'. The conference agreed on the desirability of a revised approach to the presentation of public finance and public works data, the subdivision of pay-roll tax statistics into all relevant industry classifications rather than classification according to the 'predominating' industry of the employer, an urgent census of distribution, and more comprehensive building statistics, as well as most of Coombs other requirements. To meet these needs, it would be necessary, Carver and his State colleagues concluded, to enlarge the trained staff of all of the bureaus 'to a level greatly beyond that of pre-war years'. Recalling this resolution four years later, the assembled statisticians again noted that 'the resources of Australian statistical bureaus are insufficient to meet in full either urgent national demands or international obligations . . .' ¹²⁸

In fact the pre-war Commonwealth Bureau permanent staff of about 80 had already doubled by 1948 (with a further 436 temporary staff), and in the next decade would double again. While in some States the resources devoted to statistical work did not keep pace with the tasks to be accomplished, it became increasingly clear that only a unified national organisation could satisfy modern demands. Even unification, however, could not be expected to overcome genuine conflicts of interest between the Commonwealth and the States. The Chairman of the Commonwealth Grants Commission, A. A. Fitzgerald, reminded the Prime Minister 21 August 1946 of the difficulties posed by 'the lack of uniformity in the financial practices and accounting methods and in the manner of presentation of the public accounts of the several States'. But, as a meeting of Grants Commission, Treasury, Commonwealth Bank, Post-War Reconstruction and Bureau of Statistics officials concluded on 12 December 1946, the possibility of persuading all States to publish supplementary tabulations was remote. The practice of transferring moneys to

or from extra-budgetary funds was unlikely to be abandoned by governments wishing 'to arrive at the surplus or deficit which is considered politically desirable'.

The Bureau continued to argue for an economic classification of 'the true relationship of public finance to the private sector of the economy'. But, although there were marginal improvements, a conference of federal and State finance officers in April and August 1955 still admitted that 'the present tabulations and publications were inadequate'. The potentially dramatic effect of adopting a new functional classification of consolidated revenue, trust and special funds, and the loan fund in Queensland was exposed by Stan Solomon who in a letter to Carver on 29 March 1956 compared the proposed method with that used in the **Finance Bulletin**. Using data for 1954-55, Solomon found that only in one item (railways) did the old system produce something approximating a 'true' figure. Solomon himself was willing to consider a more open approach to what later became known as 'hollow logs'¹²⁹

During the 1930s, the Commonwealth had not actively pursued the goal of unification. But, as Menzies noted at the time, Carver's dual appointment from late 1940 had 'the further advantage of knitting the work of the Commonwealth and States in the statistical field more closely together.¹³⁰ Although Wilson returned to the Bureau in March 1946, he was increasingly preoccupied with his economic advisory tasks. A planned six months' overseas assignment early in 1948 turned into an absence of fifteen months during which Carver was once again placed in command of the federal as well as the New South Wales bureau. In seeking Carver's services, Prime Minister Chifley was at pains to point out the prospective mutual benefits:

There may perhaps be a number of ways in which the Commonwealth Bureau of Census and Statistics could be of assistance in helping Mr. Carver to carry out his State responsibilities . . . I am hopeful that, if you consent to this proposal, it will enable a closer coordination of Commonwealth and State statistical activities to be achieved. All Governments today are in urgent need of fuller and more up-to-date statistics, and it is believed that this can be realised only by developing the closest possible relationships between the Commonwealth and State statistical agencies.¹³¹

James McGirr's warm endorsement the objective of 'closer co-ordination' Was the crucial turning point on the path to unification. In June 1949, McGirr agreed to the Commonwealth's proposal to house the New South Wales bureau and the three sections of the Commonwealth Bureau operating in Sydney together in Dymock's Building. The Premier endorsed action already initiated 'to unite in joint statistical ranches the Commonwealth and State staffs dealing with statistics of factories, building and employment in N.S.W'. To set the seal on these developments he also agreed to Chifley's suggestion that the unification process should continue towards 'some form of comprehensive statistical organisation which would serve the needs of both Commonwealth and State'. To this end, Carver was to be appointed Deputy Commonwealth Statistician (N.S.W.) concurrently with his State position, and the Commonwealth was to reimburse Carver's State salary as well as pay additional allowances. When Wilson finally became head of the Treasury in March 1951, Carver was his logical successor. But the New South Wales Government trembled on the brink of a final decision for integration with the Commonwealth. As a compromise, Carver was appointed Acting Commonwealth Statistician, the status he was to retain until August 1957 when, with integration about to be consummated, it was at last possible for him to enjoy the style and title of Commonwealth statistician.¹³²

The War had caused the suspension of some statistical collections from January 1942 onwards. The census due in 1941 was also deferred. As the War drew to a close, Carver discussed with Colin Clark the timing of the postponed census. Clark was eager to hold an early census and suggested that a family schedule could be collected when ration books were issued in June 1946 (an occupational survey had been taken in association with the issue of ration books in 1945).

But Carver saw insurmountable problems in the shortcake of skilled staff and the political sensitivity in 'anything that looks like saying "Fill in this big form before you get a Ration Book" '. Moreover:

those who have to be convinced do not yet realise that information is essential to the type of future policy to which they are committed. Therefore there is an unwillingness to do unconventional or enterprising things to get information. . .

Carver's preference was for an 'intermediate census' in 1947. He agreed with H. C. Coombs that the occupational survey of all civilians aged fourteen and over taken in June 1945 would provide most of the data obtainable from a personal census. As Coombs advised the Minister for Post-War Reconstruction in 19 October 1945:

The only important information normally sought in a complete census, which will not be available, is data in respect of dwelling accommodation. As it is already known that there is a widespread and serious shortage of houses and that this is likely to be acute in the winter of 1946 when many demobilised Servicemen will still be looking for homes, questions on dwelling accommodation at that time might arouse public antagonism.

Contrary to Clark, who contended that there was little to be gained by delay as 'nothing really ever settles down properly these days', Coombs and Carver believed that 'population and conditions generally would be too unsettled' to justify a census before 1947.¹³³ The 1945 Conference of Statisticians had concurred, and taken the opportunity to re-affirm their support for quinquennial censuses, recommending that 'the first post-war quinquennial census be held on 30 June 1947'. (Clark was successful in securing agreement to his proposal to reinstate a question about the issue of marriages which had been omitted in 1933. There were also new questions agreed with the Director of Housing on whether dwellings were built before 30 June 1933, materials of roof, availability of gas, electricity, and the running water, existence of bathroom, flush toilet, laundry, cooking facilities, and means of cooking.) The statisticians enjoyed the sympathy of the federal Prime Minister and Treasurer, J. B. Chifley, who nevertheless remitted their proposal for a permanent and substantial nucleus census organisation 'for future consideration by the Commonwealth Statistician, the Treasury and the Public Service Board, with a view to a further submission to Cabinet'. The Treasury alone was to consider the quinquennial census issue before Cabinet was invited to make a decision.¹³⁴

In arguing in 1950 against taking a census in 1951, mainly because of difficulties in assembling the staff of collectors, compilers, tabulators, and draftsmen (for mapping and collectors' diagrams), Roland Wilson pointed out that a census in 1954 'would provide equal inter-censal interval of seven years between the Censuses of 1947, 1954 and (presumably) 1961'. This, he suggested, 'might turn out to be a reasonable first step towards the practice of taking Censuses quinquennially rather than decennially - an objective which we have long had in mind'. In the meantime, data from 1947 and ongoing collections were adequate for most purposes, and postponement to the later 1950s would allow for large numbers of immigrants, both received and projected, to be 'absorbed permanently into the Australian economy'.¹³⁵ The case for censuses 'or at least dissected population counts, at short intervals of a few years' was again pressed by Carver in 1959. In a draft Cabinet paper he argued:

Overall population increase in the seven years 1947 to 1954, an important factor influencing the choice of 1954 as a Census year, was 1,407,172 persons, a number far in excess of any previous intercensal increase during this century. By comparison, the increase in the seven years 1954 to 1961 may exceed this number, bringing the population of Australia at mid 1961 to possibly over 10.4 millions. This recoded expansion will render the Census information currently available quite out-of-date.

There was a further difficulty in measuring the interstate movement of population because of the rapid development of travel by air and road. A Ministerial conference in June 1958 had drawn

attention to the effect of increasingly inaccurate population estimates on tax reimbursements grants. Within the Bureau there was also growing dissatisfaction with the decreasingly dependable estimates of employment, unemployment, and work force projected forward from 1954 on the uncertain basis of pay roll tax returns. Heeding these concerns successive governments consented to a census every five years from 1961. **The Census and Statistics Act 1977** made a quinquennial census mandatory, a fresh impetus having been imparted by a High Court decision of 1976 requiring an electoral redistribution within the life of every Parliament.¹³⁶

The expanding post-war demand from administrative authorities and representatives of primary, secondary, and tertiary industry for innovatory and more comprehensive statistical collections, strained the Bureau's regulatory and organisational framework. All forms, other than those relating to 'factories, mines and productive industries generally' had to be prescribed by statutory rules and gazetted. Only prescribed persons were obliged to complete forms. Experience with the collection of building statistics demonstrated the inconvenience and embarrassment which this cumbersome process entailed. For the fifteen quarterly collectors of building statistics from September 1945 to the first half of 1949, new forms had to be prescribed six times. When Carver sought further changes in 1949 to implement 'a hard won agreement to collect building statistics on behalf of the Victorian Minister or Housing, he learned that it would be at least six months before the necessary rules could be prepared and gazetted. The only alternative to proceeding without legal authority was to change the legislation. Carver convinced Chifley, who in turn carried the Cabinet, to remove the requirement to prescribe both forms and persons.

As a later Bureau commentator saw it:

No longer would the work of statistical collection be bogged down through the threat, or the fact, of recalcitrant and litigious respondents challenging prescriptive wording on individual collection forms. The fact of being sent a form by the Statistician was to be sufficient to oblige a person to comply with the requirements of the Act, in a stroke "prescribing" both the respondent and the schedule to be completed.

Simultaneously, the Bureau obtained an extension of the secrecy obligations of section 24 of the **Census and Statistics Act** to cover information supplied voluntarily as well as 'furnished in pursuance' of the Act. The second reading speech explained that statutory authority was now given to the unwritten and inviolable law concerning the privacy of information, about individual persons and individual businesses, obtained for statistical purposes by the Statistician'. Henceforth that secrecy could not be violated by regulation or by administrative action. Confidentiality was extended not only to returns supplied to the Statistician (by State statisticians as well as by individuals and organisations) but to copies of returns held by respondents themselves.¹³⁷

In parallel with these regulatory developments came strains on human resources and a re-orientation of the Bureau's function. During the War, the Commonwealth Government had assumed responsibility for national economic management. The High Commonwealth Court's legitimisation of uniform taxation and State reimbursement laid the foundation for a greatly expanded role in the peacetime economy. State government interest in developing the capacity for long term planning was interrupted, and buoyant post-war conditions diminished the imperative to monitor and moderate economic fluctuations. As post-war reconstruction lost its momentum, federal policy initiative was grasped by the Treasury whose ascendancy was both symbolised and assured by Wilson's appointment as Secretary in 1951. Treasury annexed the economic domain (contesting some parts of it successively with the Departments of Prime Minister and Cabinet, Commerce and Agriculture, and Trade). The Bureau's fusion of statistical and economic advisory roles embodied most notably in Giblin and Wilson was irrevocably terminated with Wilson's departure and Treasury's rapid recruitment of a team of economists.¹³⁸

When the Commonwealth decided the time was ripe to re-open negotiations towards integration of State and federal statistical bureaus, they were to find themselves embracing what one official was subsequently to describe as 'generally depleted statistical capacities'. In a personal letter to the Western Australian Under Treasurer, Carver noted in September 1953 that 'at least three of the States, without recognising it, have been abandoning their statistical organisations and automatically throwing more and more on to us to do in Canberra'. Nevertheless, Carver was hopeful because 'statistical coordination has come actively to life in both Brisbane and Melbourne, where joint premises and other joint arrangements contingent on the Census are being made'. Meanwhile, in Canberra, the Public Service Board had 'provided career jobs which will now enable us to continue the development of Australian statistics towards the levels attained in the United Kingdom, Canada and the United States'. One of the key jobs created was that of Assistant Statistician (Administrative), a position specially approved in 1949 to regularise Wilson's refusal to allow Archer to take up a promotion in the Department of Health.¹³⁹

With the encouragement of Archer and O'Neill, a frustrated H.P. Brown produced for Carver early in 1950 a list of the Bureau's 'general deficiencies', and 'specific items' which required action. Brown found fault with uncoordinated publication policy, 'inadequate thinking' about 'general statistical policy' as well as a lack of experimental work on questionnaires, insufficient attention to seasonal variations in monthly collections, and the narrowness of the range of monthly statistics. Delays in compilation and publication, and the 'very summary fashion' in which the inquiries of private persons were dealt with were linked directly with staff shortages, as, by implication, were 60 neglected categories of statistics. Remedying all of the inadequacies nominated by Brown was beyond the resources of even a rapidly growing organisation. But significant progress was made in some important areas. With D.V. Youngman, Brown himself had already pioneered social accounting and had developed sampling techniques for business surveys. Further important analytical work was done on national accounts during the 1950s, but greater emphasis was placed on compiling statistics. In 1950, quarterly surveys of retail establishments began, complementing a Census taken in 1948 and 1949 after strong requests from the business sector. A survey of wage and salary taxpayers introduced in 1952 resulted in a saving of 80 staff who had previously compiled taxation statistics by complete enumeration. The creation in 1953 of a sampling section under I.G. Jones in the Development Branch saw the new techniques established, although a sceptical Carver was tempted to discontinue all sampling operations when the 1954 Census of retail establishments could not at first be reconciled with the surveys for the corresponding quarters. From the mid-1950s onwards, in spite of resistance from some informants who queried the Statistician's authority to use sampling techniques, sample surveys embraced some elements of monthly production, wool clip estimates, stocks, capital expenditure, local government employment, company tax and award occupations, as well as special assignments for the Reserve Bank and various government departments, town planning authorities, and academic institutions. Developmental work on a household expenditure survey was undertaken by Dr F.B. Homer and G.R. Palmer but the dispersal of senior staff to State offices (and the beginning in 1958 of studies related to the introduction of computers) led to the suspension of household expenditure work and other new projects. Meanwhile, however, E.K. Foreman prepared the groundwork for a labour force survey and the extension of sampling into census quality control. Foreman became the driving force behind a core sampling organisation that progressively, and not without friction with some other 'line' managers, undertook responsibility for innovation in a variety of applications of mathematical statistics.¹⁴⁰

UNIFICATION AND A NEW WORLD

It fell to Archer, at Carver's behest, to usher in the era of the computer. A sympathetic response from Roland Wilson and Lenox Hewitt of the Treasury ensured that funds were available for the purchase of computers (a Control Data 3600 in Canberra and satellite CD 3200s in State capital offices), the programming staff having been recruited from Britain in 1962. Archer and Dr John

Ovenstone, a Weapons Research Establishment and subsequently Defence Department expert, had been entrusted by a 'quite terrified' Carver with defining the Bureau's needs and overseeing the installation. The new world which the Bureau was attempting to cope with using advanced techniques and vastly enhanced computational power, was de-scribed some years later in a memorandum arguing the case for major statutory changes:

The pressures which were being exerted on the Commonwealth Bureau during the post-War years reflected not only the increase in the volume of statistics being sought, but also a fundamental change in the manner in which official statistics were being used. Whereas in pre-War years, statistics were used primarily as a measure of past performance, since the War they have been used increasingly as a means of evaluating current trends and as a basis for anticipating future economic trends for planning, both in Government and in private industry.¹⁴¹

The management problems of the 1960s and beyond were to be problems of an expanding organisation, still conscious of a mismatch between resources and commitments, where overlapping, duplication, lack of coordination, and excessive subject-matter specialisation are endemic. With 3,100 staff by 1969 and 2,000 publications (550 titles) released each year, it was an organisation whose work could be strategically directed but no longer given the degree of personal oversight to which Carver had aspired.¹⁴² As the scope of activities widened, Bureau officers in the State capitals found themselves responding to media inquiries on 'sensitive areas of public opinion (income, expenditure patterns, pension sources, types of illness or infirmity)'.¹⁴³ As academic, business, and government researchers widened the ambit of their concerns, anxieties about the erosion of privacy were more frequently expressed in Parliament and the community. While economic statistics remained central to the Bureau's mission - and were radically enhanced by the introduction in 1969 of an integrated census of mining, manufacturing, electricity, gas, wholesale and retail trade, and certain services - there was a growing emphasis on social statistics. Statistics of house-hold expenditure and the use of motor vehicles had acknowledged policy relevance. In line with overseas practice, seasonal adjustment of a wide range of series became accepted procedure; input-output tables and econometric models were produced; and attention was even turned to the long resisted but pressingly demanded indexes of production and productivity.¹⁴⁴

While the Bureau's leading officers were anything but complacent, particularly as other federal departments developed independent and sometimes incompatible data systems, they had rightfully recognised that the achievement of unification agreements with all States laid the essential foundation for a re-invigorated and extended national statistical enterprise. Negotiations towards an integrated statistical service were re-opened by the Commonwealth in 1953. Discussions with Victoria were promising but inconclusive. The Queensland Labour Government decided to 'retain its own Statistical office to meet all State Governmental, Local Authority and State Industrial requirements' a stance that was promptly reversed by the Country Party-Liberal Party coalition in 1957.¹⁴⁵ But all States consented to a transitional step of housing their statistical officers in the same premises as Commonwealth officers. Even this move was delayed, as Carver explained to Wilson, by 'the messing about of various Commonwealth instrumentalities, even involving the fundamental question as to whether a State Statistical office could be housed in the Commonwealth space'. Carver proceeded cautiously until mid-1953, feeling that he was 'a bit out of step' with Wilson with whom he insufficient opportunity to confer. But having been assured that he was not 'running contra' to Wilson's views, he proceeded 'actively but guardedly with suasion' to the point of having the Treasurer ready by October 1953 to recommend a simple amendment to the Census and Statistics Act to facilitate the negotiation of agreements with individual States. It was to take another three years, however, before legislation was in place.

By early August 1954, Carver had distilled his thinking eleven 'principles' which he discussed first privately with well in New South Wales, South Australia and Western Australia. A draft agreement on integration, with special reference to Western Australia, was prepared by the Crown Solicitor in January 1955. The following month, Carver advised the Chairman of the New South Wales

Public Service Board that an enabling Bill and a draft of staff reorganisation were also ready.¹⁴⁶ Agreement in principle with the governments of Western Australia, New South Wales, and South Australia proved less difficult than had been feared. The draft agreement with Western Australia became the prototype of arrangements to be made with each State following enactment of the Statistics (Arrangements with States) Bill, authority for which was finally sought from the Cabinet by Arthur Fadden in February 1956. Fadden advised Cabinet that the proposed arrangements entailed the creation of:

an integrated statistical service operated by Commonwealth officers under the immediate direction of each State of a Statistician who would hold office under both the Commonwealth and the State . . . No State would be required to surrender its sovereign powers in the field of statistics. It would agree to exercise them in a special way through an integrated service.¹⁴⁷

In a series of agreements, beginning with South Australia in March 1957 and ending with Victoria in June 1958, the vision that had fired a succession of statisticians from Coghlan to Carver at last became a reality. Of all the benefits predicted to flow from integration, one of immeasurable practical and symbolic significance was identified by the compiler of 'Preliminary Notes on the Provisional Agenda' for the 1958 Statisticians' Conference: 'The Central Bureau can now, for the first time in history, make a firm printing timetable with the Commonwealth Printer.'¹⁴⁸ While the completion of unification was Carver's greatest achievement, he also influenced the future course of the Bureau by his nurturing of the careers of Keith Archer and Jack O'Neill. Archer had been made responsible for 'the main statistical work and general administration of the office' under Carver.¹⁴⁹ He was created Deputy Commonwealth Statistician in 1958 and regularly acted for Carver when the Statistician was absent. He succeeded Carver in February 1962. O'Neill, Archer's close colleague for three decades, followed him as Deputy and ultimately as Statistician in 1972. With the departure of O'Neill in 1975, a half century of continuity was ended. The re-christening of the organisation as the Australian Bureau of Statistics, its statutory autonomy, the appointment of its head from outside, and its headquarters consolidation in concrete isolation eight kilometres from the centre of Canberra at Belconnen, all heralded a new era that awaits its historians.

Notes pertaining to Parts 3 & 4

1. Report on the Proposed Establishment of a Central Bureau of Statistics', T. A. Coghlan to Sir William Lyne, 21 April 1903, Sir Edmund Barton MSS, NLA 51/1/1112-14.
2. E. C. Fry, 'T. A. Coghlan as an Historian', paper presented to Section E, ANZAAS Congress, Aug. 1965, p. 9.
3. National Australasian Convention, Sydney, 1891, **Votes and Proceedings**, p. clxxvi; John Quick and Robert Garran, **Annotated Constitution of the Australian Commonwealth** Sydney, 1901, p. 572.
4. **Census of Australasia 1901**, Conference of Statisticians' Report, Legislative Assembly, New South Wales, 1900, p. 1.
5. *ibid.*, p. 3.
6. Correspondence Register, Department of Home Affairs, AA A100.
7. Conference of Statisticians, Hobart, Jan. 1902, **Parliament of Tasmania**, No. 25, 1902, Appendix III, pp. 32-3.
8. *ibid.*, p. 33.
9. *ibid.*, p. 7.
10. **Unification of Australian Statistical Methods** and Co-ordination of the Work of the Commonwealth and State Bureaux, Conference of Statisticians of the Commonwealth and States of Australia and Colony of New Zealand, Melbourne, 1906, p. 24.
11. Conference of Statisticians . . . 1902, pp. 8-9.
12. Sir Edmund Barton's Diary, 6 March 1903, Barton MSS, NLA 51/2/951; Coghlan to Lyne, 21

April 1903, Barton MSS,
NLA 51/1/1118-25.

13. Joan M. Cordell, **T. A. Coghlan** Government Statist of New South Wales 1888-1905, unpublished ts., n.d., p. 99; Commonwealth Statistician and Actuary to Secretary, Department of Home Affairs, 8 Feb. 1930, AA A571, 32/2037, refers to Johnston's letter.
14. Cordell, p. 119. For Coghlan's work on the organisation of export and import statistics see his correspondence with the Commonwealth Treasurer, Sir George Turner, Nov-Dec. 1904, AA A571, 05/ 3601.
15. Cordell, p. 100; Coghlan to W. McLeod, 11 April 1906, Cordell p. 101; and letters to Deakin urging that the Commonwealth take over the work of the state agents general, 6 Sept. and 27 Oct. 1905, Alfred Deakin MSS, NLA 1540/15/2430, 2446.
16. 'Appointment of Commonwealth Statistician', Department of Home Affairs office memorandum, 12 Feb. 1906; Prime Minister (Deakin) to Premier of New South Wales (Carruthers), 6 Feb. 1906, AA A 100, 1906/1258; Coghlan to Deakin, 15 Feb. 1906, Deakin MSS, NLA 1540/1/1334. For an interpretation showing Carruthers in a bad light' see D. I. Wright, **Shadow of Dispute**, Aspects of Commonwealth - State Relations, 1901-1910, Canberra, 1970, pp. 78-9; cf David Carment, **Australian Liberal: A Political Biography of Sir Littleton Groom** 1867-1936, Ph.D. Thesis, A.N.U., 1975, pp. 46-9.
17. Secretary, Department of Home Affairs for Minister for Home Affairs, 21 Dec. 1905; T. T. Ewing to L.E. Groom, 27 Dec. 1905; Secretary, Department of Home Affairs to Minister, 12 Jan. 1906, Sir Littleton Groom MSS, NLA 236/1/398, 403, 413; Coghlan to Deakin, 28 Dec. 1905, Deakin MSS, NLA 1540/1/1280 - 2; **Commonwealth Gazette** 24 Feb. 1906, p. 150; Nation Building in Australia The Life and Work of Sir Littleton Ernest Groom, Sydney, 1941, pp. 44-5, 50-1, 118.
18. **Report of the Proceedings of the Conference between the Commonwealth and State Ministers**, Hobart, 1905, pp. 87, 90.
19. **Commonwealth of Australia Parliamentary Debates** (CPD), vol. XXXII, House of Representatives, 23 Aug. 1905, pp. 1384-5.
20. The secrecy provisions inadvertently inhibited State statisticians from using information obtained under the Commonwealth Act for State purposes until a regulation remedied the unintended consequence in 1909. (ABS 06/200.) Four Tasmanian businessmen earned the distinction of being the first people to be prosecuted for failure to furnish information. Convictions were recorded and more serious penalties threatened for future delinquents (**The Mercury**, 16 June 1910, ABS Box R8 903/09.) It was not until 1935 that all States had legislative authority for their own statistical collection: Tasmania (**Statistical Returns Act 1877**); Queensland (**Statistical Returns Act 1896**); New South Wales (**Census Act 1901**); Western Australia (**Statistics Act 1907**); Victoria (**Statistics Act 1928**); South Australia (**Statistics Act 1935**). An amending Act in 1920 explicitly empowered the Statistician to publish census results and abstracts 'as the Minister directs, with observations thereon'.
21. CS (C. H. Wickens) to Secretary, Department of Home Affairs, 8 Feb. 1930, AA A571, 32/2037; Coghlan to Deakin, 28 Dec. 1905, Deakin MSS, NLA 1540/1/1280-2.
22. Cordell, p. 112; Susan Bambrick, 'The First Commonwealth Statistician: Sir George Knibbs', **Journal and Proceedings**, Royal Society of New South Wales, vol. 102, 1969, pp. 127, 132-3. Knibbs' appointment as Acting Professor of Physics at Sydney University is mentioned in various obituaries but there is no official record of it at the university.
23. Lyne to Groom, 11 May 1906, Groom MSS, NLA 236/1/449. When more prominent statisticians like Victoria's William McLean and Coghlan's deputy and successor, J. B. Trivett, had recently been subjected to public dissection of their methods and social philosophies in the inquiries of the Mackellar Commission into the birth rate, the advantage of having nothing known against him was a considerable asset to Knibbs. (Neville Hicks, **'This Sin and Scandal'** Australia's Population Debate 1891-1911, Canberra, 1978, ch. 7; W. D. Borrie, **Population Trends and Policies: A Study in Australian and World Demography**, Sydney, 1948, Ch. IV.) Fortunately, Knibbs was on the platform with Deakin,

- Groom and the Labour Leader, J. C. Watson, at the launching of the Immigration League of Australia in October 1905. (Michael Roe, **Nine Australian Progressives: Vitalism in Bourgeois Social Thought 1890-1960**, St Lucia, 1984, pg.162.)
24. Coghlan to ID. C. Mc Lachlan, 29 June 1906, Cordell, p. 102.
 25. Coghlan to Deakin, 29 June 1906, Deakin MSS, NLA 1540/1/1449.
 26. Coghlan to Ewing, 26 Oct. 1906, Cordell. p. 102.
 27. J.Stonham to Secretary of the Treasury, 3 May 1933, ABS 57/1530.
 28. George Handley Knibbs, 'The History and Development of the Statistical System of Australia', in John Koren (ed), **The history of Statistics**, Their Development and Progress in Many Countries New York, 1918, P. 60; Commonwealth Bureau of Census and Statistics (CBCS), **Official Year Book of the Commonwealth Australia** . . . , No. 1, 1908, Melbourne, 1908. p. 12.
 29. **Conference of Statistician** . . . 1906, p. 4.
 30. ABS 140/08
 31. **Conference of Statisticians** . . . 1906, pp. 15 - 17,8.
 32. *ibid.*, p. 6. For the shrewd observations and suggestions of an experienced South Australian mounted police constable, see Leo Dingle to Government Statist, 19 June 1922, ABS (Adelaide), 141/1916.
 33. *ibid.*, pp 7.23; Knibbs argued vigorously for quinquennial enumeration in a memorandum to the Secretary, Department of Home Affairs, 1 Feb. 1907, AA A100, 7/861.
 34. *ibid.*, pp 12-13; Ian vanden Driesen. 'Demographic Grumbles: Some Problems with Population Data in Western Australia 1850 -1900', **Australian historical Statistics**, No. 6, Jan. 1983, p.23.
 35. **Conference of Statisticians** . . . 1906, pp. 20-1, 6.
 36. G.H. Knibbs, **Local Government in Australia**, Melbourne, 1919, preface; for an early attempt to minimise unwarrantable and misleading' divergences in defining metropolitan areas, see CS (Knibbs) to South Australian Government Statist, 21 June 1911, ABS (Adelaide), 91/1911.
 37. **Conference of statisticians** . . . 1906, pp. 20 - 1.
 38. *ibid.*, p 21; CBCS, **Year Book** 1917, p. 197.
 39. Coghlan to Deakin, 10 July 1905, Cordell, p. 41; Coghlan to Deakin, 20 July 1906, CS (Knibbs) to Secretary, Department of Home Affairs, 12 July 1907, AA A100, 07/4753; CPD, vol. XLV, House of Representatives, 31 March 1908, p. 9875. Knibbs was also riled by the unauthorised description of Coghlan in **Who's Who in Australia 1907** as 'Statistician to the Federal Government since 1906' (CS Knibbs to Secretary, Department of Home Affairs, 5 Feb. 1907, AA A100, 7/938.)
 40. CS (Knibbs) to Secretary, Department of Home Affairs, 21 March 1908, ABS 45/26.
 41. Memo by CS (Knibbs), 24 March 1908, ABS 45/26; CPD, vol. XLIV, Senate, 24 March 1908, p. 9422; in a memorandum to the Secretary, Department of Home Affairs on 15 Jan. 1907, Knibbs had foreshadowed the annual publication of a 1,500 page Commonwealth statistical register and a quinquennial 1,500 page 'Statistical Account of the Development of the Commonwealth of Australia' as well as the **Year Book**. (AA A100, 07/666.)
 42. CS (Knibbs) to Secretary, Department of Home Affairs, 21 Oct. 1907; 9 April 1908 (approved by Minister, 23 April 1908), ABS 45/26.
 43. ABS 45/26.
 44. CS (Knibbs) to Secretary, Department of Home Affairs, 4 March 1908, ABS 45/26; L. H. Sholl, the South Australian Government Statist, was particularly dismayed by his State's inability to collect and publish production statistics as promptly as Victoria and New South Wales (Government Statist, South Australia to Victorian and New South Wales Government Statists, 21 June 1911, and replies 12 July 1911 and 28 June 1911, ABS, Adelaide, 95/1911).
 45. CS (Knibbs) to Secretary, Department of Home Affairs, 5 Nov. 1908, minuted by Hugh Mahon, 18 Nov. 1908, ABS 45/26.
 46. CS (Knibbs) to Secretary, Department of Home Affairs, 9 May 1908, ABS 45/26. The similarity between some sections of the **Year Book** and corresponding portions of earlier

works by Coghlan gave a particular piquancy to the denigration of Knibbs' prose style. Mr B. D. Haig kindly drew my attention to some parallel passages in the works of Coghlan and the **Year Book**.

47. Coghlan to N. C. Lockyer, 8 Jan. 1909, Cordell, p. 48.
48. Coghlan to Deakin, n.d. (ca Oct. 1908), Deakin MSS, NLA 1540/1/2126; Coghlan to MacLachlan, 19 March 1909, Cordell, p.48
49. **Year Book** 1908, pp. 760-1, 767, 516-22.
50. *ibid.*, p. 7.
51. G. H. Knibbs, **The Problems of Statistics**, Brisbane, 1910, *passim*. For an assessment of Knibbs' social and economic thinking see Craufurd D. W. Goodwin, **Economic Enquiry in Australia**, Durham N. C., 1966, pp 261-2, 349-50, 448-52, 487-91.
52. Hughes to Mahon, 15 April 1909, Mahon MSS, NLA 937/129.
53. Coghlan to Lockyer, 18 March 1908; to Macleod, 21 Oct. 1910, Cordell, pp. 103, 102; Coghlan to Deakin, 25 March 1909, Deakin MSS, NLA 1540/1/2336.
54. AA A 100, 07/5356; Groom's opinion, 5 Aug. 1907, is published in Patrick Brazil and Bevan Mitchell (eds), **Opinions of the Attorneys-General of the Commonwealth of Australia**, with opinions of Solicitors-General and the Attorney-General's Department, vol. 1, 1901-14, A.G.P.S., Canberra, 1981, pp. 345-6; of Robert Garran's comment, 11 Aug. 1908, in Brazil and Mitchell (eds), p. 402.
55. CS (Knibbs) to Secretary, Department of Home Affairs, 26 Nov. 1909; Prime Minister to Premier of Western Australia, 20 Nov. 1908, ABS 06/200; CS (Knibbs) to Secretary, Department of Home Affairs, 5 Jan. 1909, ABS Box R24, 140/08; CS (Knibbs) to Secretary, Department of Home Affairs, 16 Dec. 1909, ABS 200/06. The limits on Knibbs' authority were clearly illustrated by his failure to persuade Queensland and New South Wales to continue the costly compilation of the particulars relating to 'distinct persons' convicted at magistrates' courts which facilitated comparisons of data on lower and higher courts. (CS to Government Statistician, Queensland, 3 Nov. 1910, ABS Box R15, 200/06; cf Satyanshu K. Mukherjee et al., **Crime Trends in Twentieth Century Australia**, Sydney, 1981, pp. 13-15)
56. F. B. Homer, 'The Evolution of the Census', Address given to the N.S.W. branch of the Economic Society of Australia and New Zealand, 23 April 1954, p. 11; David Tait, 'Respectability, Property and Fertility: The Development of Official Statistics about Families in Australia', **Labour History**, No. 49, Nov. 1985, p. 92; G. H. Knibbs, **The First Commonwealth Census, 3 April 1911, Notes**, Bureau of the Census team as consisting of 400 enumerators, 7,000 collectors, a maximum of 280 tabulators, and Census and Statistics, Melbourne, 1911; in Koren (ed.), **The history of Statistics**, p.64, Knibbs spoke of the Census team as consisting of 400 enumerators, 7,000 collectors, a maximum of 280 tabulators, and an expenditure of £170,000. British developments are noted in Richard Lawton (ed.), **The Census and Social Structure: An Interpretative Guide to Nineteenth Century Censuses for England and Wales**, London, 1978, p. 20.
57. A. Adrian, 'Trends in Social Statistics: The Australian Census 1911-1981', Working Paper No. C10, 1981 Census of Population and Housing, Development Programme, ABS Canberra, [1982], pp. 3-4, 5-9; ABS evaluation of the 1976 Census race question indicated that 'the quality of the data is suspect'. (Brian Doyle and Raymond Chambers, 'Census Evaluation in Australia', Working Paper No. C4, 1981 Census of Population and Housing, Development Programme, ABS, Canberra, [1980], Appendix 2.) On the deaf-mute problem, see H. O. Lancaster, **An Introduction to Medical Statistics**, New York, 1975, pp. 1-4.
58. Press cuttings, Dec. 1910 to July 1911, ABS (Adelaide), 161/1909; CS (Knibbs) to South Australian Government Statist, 13 May 1912, ABS (Adelaide), 96/1912; **Conference of Statisticians of the States of Australia**, Sydney, March 1912, pp. 17, 8, 10, 13. Within weeks of the conference the Commonwealth had moved to arrange for daily reports on interstate rail migration to be supplied by railway officers at border towns. (Minister for Home Affairs, Schedule No. 8, 30 April 1912, AA A742.)
59. **Year Book** 1912, pp. 1167-84; G. H. Knibbs, **Inquiry into the Cost of Living in Australia**

- 1910-11, CBCS, Melbourne, Dec. 1911; G. H. Knibbs, **Expenditure on Living in the Commonwealth, November 1913**, Labour and Industrial Branch Report No. 4, CBCS, Melbourne, Aug. 1914.
60. G. H. Knibbs, **Social Insurance**, Report by the Commonwealth Statistician . . . , CBCS, Melbourne, Sept. 1910, pp. 83, 92.
 61. An undated draft 'Labour and Statistics Department Bill', Regulations, and Explanatory Memorandum are in King O'Malley MSS, NLA 460/3046-58.
 62. Minister for Home Affairs to Secretary, Department of Home Affairs, 13 March 1911, 24 Jan. 1911, 13 Feb. 1911, (copies), O'Malley MSS, NLA 460/40-3, 1, 25-8.
 63. Minute by Minister for Home Affairs, 24 March 1911, (copy); CS (Knibbs) to Minister for Home Affairs, 30 Sept. 1912, O'Malley MSS, NLA 460/44, 3059-60. It was not until 1975 that the Commonwealth Statistician had the full powers of a departmental head.
 64. **Year Book** 1913, pp. 1123-55; CPD, vol. LXII, House of Representatives, 24 November 1911, p. 3165; C. Forster, 'Australian Unemployment, 1900 -1940', **The Economic Record**, vol. 41, no. 95, Sept. 1965, pp. 426-50 and 'Indexation and the Commonwealth Basic Wage 1907-22', *Australian Economic History Review*, vol. XX, no. 2, Sept. 1980, pp. 99 -118; the early development of the Labour and Industrial Branch can be traced in 'schedules' of current work circulated to parliamentarians by King O'Malley, Oct. 1911 to May 1913 (AA A742).
 65. Knibbs in Koren (ed.), *The History of Statistics*, pp. 65-8. By December 1912, Wickens had accumulated 54 days untaken leave 'through pressure of exceptional official duties'. (Wickens to CS, 30 Dec. 1912, ABS W/65)
 66. CS (Knibbs) to Minister for Home Affairs, 2 Nov. 1916, annotated by O'Malley, 6 Nov. 1916, ABS W/65. In answer to a question on notice, the Senate had been told on 14 September 1916 that there were 24 permanent staff and 28 temporaries employed on the usual work of the Bureau, with an additional 107 temporary staff on war census work. (CPD, vol. LXXXIX, Senate, 14 Sept. 1916, p. 8534).
 67. CS (Knibbs) to South Australian Government Statist, 4 Sept. 1914; New South Wales Government Statistician to CS, 1 Oct. 1914, (copy); R. M. Johnston to G. H. Knibbs, 23 Sept. 1914, (copy), ABS (Adelaide), 159/1914; Memorandum, Government Statist to Chief Secretary, 26 July 1916, ABS (Adelaide), 144/1916; South Australian Government Statist to CS (Knibbs), 13 July and 18 Aug. 1916; CS (Knibbs) to Government Statist, 17 July and 22 Aug. 1916, ABS (Adelaide), 136/1916. As early as 24 Sept. 1908, Knibbs had commented that production statistics could be improved and issued earlier if the State bureaus 'were relieved of effort in connection with Vital Statistics'. (ABS Box 24, 140/08.)
 68. G. F. Pearce to Premier, South Australia, 3 June 1916; 'Report Upon the Work of the State Statistical Department and the Proposal for Transfer to the Commonwealth Government'. Government Statist, 30 June 1916, ABS (Adelaide), 118/1916 (CPD, vol. XCIV, Senate, 24 Nov. 1920, p. 6871).
 69. R. M. Johnston to Premier, 17 July 1916, (Tasmanian Premier's Department 1.269) quoted in D. N. Allen, **The Development of Official Statistics in Tasmania**, Diploma of Public Administration thesis, University of Tasmania, 1965, p. 81.
 70. Report . . . 30 June 1916', ABS (Adelaide), 118/1916; the Registration of Births, Deaths, and Marriages Department was amalgamated with the Statistics Department in 1928, bringing South Australia into harmony with Victoria, Queensland, and Western Australia, with Tasmania and New South Wales the exceptions. (CS [Wickens] to Secretary Department of Home Affairs, 8 Feb. 1930, AA A571, 32/2037.)
 71. **The Age** 13 Dec. 1916. As a war economy, Victoria had, ceased publishing its Statistical Register, shortened its **Year Book**, and reduced the print run. (Unsigned and undated memorandum ca 1920, ABS Melbourne; Erle Bourke, *Victorian Year Book* 7986, Melbourne, 1986, pp. 18-19.)
 72. CS (Wickens) to Secretary, Department of Home Affairs, 8 Feb. 1930, AA A571; Johnston to Knibbo, 23 Sept. 1914, (copy), ABS (Adelaide), 159/1914.
 73. G. H. Knibbs, **The Private Wealth of Australia and its Growth as ascertained by various methods, together with A Report of The War Census of 1915**, CBCS,

- Melbourne, 1918, pp. 8-13, 19; Knibbs to G. Pitt-Rivers, 17 March 1921, (copy), AA A1606, BS/1 Part 3.
74. *ibid.*, pp. 36-7; Government Statist, South Australia to CS (Knibbs), 8 Sept. 1915, ABS (Adelaide), 129/1915; Colin Clark and J. G. Crawford, **The National Income of Australia, Sydney**, 1938, p. 7; L. Soltow, 'The Censuses of Wealth of Men in Australia in 1915 and in the United States in 1860 and 1870', **Australian Economic History Review**, vol. XII, no. 2, Sept. 1972, pp. 125-6; F. Lancaster Jones, 'The Changing Shape of the Australian Income Distribution, 1914-15, and 1968-69', **Australian Economic History Review**, vol. XV, no. 1, March 1975, pp. 21-34. Understatement was also evident in responses to the voluntary questions on income in the 1933 Census. (Clark and Crawford *op. cit.*, pp. 7-22.)
 75. Knibbs, **Private Wealth**, p. 178.
 76. Knibbs to Stonham, 23 Dec. 1919, ABS 26 19/579. Knibbs had admitted to an inquirer in 1919 that not all information about the sources of personal income had been tabulated at the war census. (CPD, vol. XCL, House of Representatives, 4 March 1920, p. 201.)
 77. CPD, vol. XCIV, House of Representatives, 6 Oct. 1920, p. 5364; Knibbs to Sholl, 29 Jan. 1915, ABS (Adelaide) 23/1914.
 78. CS (Knibbs') to Minister for Home and Territories, 25 Feb. 1918, AA A461, D320/1/3; ABS R12 18/ 169. Knibbs' comprehensive treatment of the proposed imperial bureau, including a floor plan for the offices and library, suggests a personal as well as an official interest in the outcome. While in London, Knibbs pointed out that the British had no central bureau of statistics. The Commonwealth government was unenthusiastic about committing funds to an organisation that might necessarily have to undertake tasks more properly the responsibility of the British alone. With the British themselves bent on economy the scheme languished. (R. R. Garran to Prime Minister, 25 Jan. 1924, AA A461, D320/1/3.)
 79. Knibbs to Stonham, 23 Dec. 1919, ABS 26 19/579.
 80. G.H. Knibbs, 'Statistics and National Destiny', **United Empire**, vol. XI (New Series), No. 1, Jan. 1920, pp. 14-25; 'The Problems of Population, Food Supply and Migration', **Scientia**, vol. XXVI, Dec. 1919, pp. 485-95.
 81. Fraser to Knibbs, 9 May 1919, ABS 26 19/579.
 82. Secretary, Home and Territories Department to CS (Knibbs), 28 July 1919; CS (Knibbs) to Secretary, Home and Territories Department, 23 July 1919 (copy), ABS R26 19/579. Wickens had not been one of Knibbs' original choices for the Bureau but had successfully applied when his more senior Perth colleague W. Siebenhaar had declined an offer of appointment. (C. F. Wilson, Colonial Treasurer, to CS [Knibbs], telegram, 24 Oct. 1906, ABS 53/06.)
 83. J. G. McLaren (Secretary, Home and Territories Department) to Knibbs, 19 May 1921, CSIRO Archives 1/175 Pt 1; H. O. Lancaster, 'Charles Henry Wickens 1872-1939', **Australian Journal of Statistics**, vol. 16, no. 2, 1974, pp. 71-82 for Wickens' life and an assessment of his contributions to demography and vital statistics in particular. Sir Roland Wilson, recalling a view expressed in the Bureau in the early 1930s, credits Wickens with authorship of **The Mathematical Theory of Population**, the major work published over Knibbs' name. Wickens himself, in an obituary of Knibbs, described the study as Knibbs' 'most ambitious effort'. Professor C. C. Heyde concludes from a study of this and earlier works that Wickens would have had a claim to recognition as co-author (private communication, 15 Feb. 1988). ('An address by Sir Roland Wilson to mark the 50th anniversary of his appointment as Commonwealth Statistician', ABS, Canberra, 29 April 1986, pp. 1-2; C. H. Wickens, 'Sir George Knibbs'. **The Economic Record**, vol. v, no. 9, Nov. 1929, p. 335.) George Pearce saw the deaths of several State officials as affording 'a splendid opportunity' for reform. (CPD, XCIV, Senate, 24 Nov. 1920, p. 6871.) W. L. Johnston to Wickens, 22 Oct. 1923, ABS 08/140.
 84. CS (Wickens) to Secretary, Home and Territories Department, 9 Aug. 1922, AA A571, 32/2030; CS (Knibbs) to Secretary, Department of Home Affairs, 18 March 1911, (copy), ABS Box W165 53/06. Barford, who was to be principal assistant to Stonham, also found himself reclassified from professional to clerical.

85. **Year Book** 1922, pp. 1084-5. The machine tabulation saga is documented in AA A571, 32/2034-5. In the mid 1920s, the New South Wales and Victorian bureaus were each using two Powers Automatic Key Punches and a Powers Automatic Counting Sorter which could sort about 18,000 cards an hour. (ABS, Adelaide, 49/1926.)
86. Extract from Report of Conference between Prime Minister, State Premiers and Ministers . . . Melbourne, May, 1923', ABS (Melbourne); **Conference of Statisticians, Melbourne 2/10/23 to 5/10/23**, typescript report to Prime Minister and Premiers, 5 Oct. 1923; Giblin to Wickens 12 March and 4 April 1924. ABS 08/140.
87. CS (Wickens) to Secretary, Home and Territories Department, 10 Sept. 1924, ABS 08/140. Correspondence, memoranda, and copies of legislation relating to the takeover of the Tasmanian operation are in AA A571, 32/2028, ABS 08/140 and 39/1/1. (The property transferred to the Commonwealth by the Tasmanian Act included three revolving chairs, five mats, a waste paper basket, three Fuller slide rules, and an arithmometer. The South Australian Bureau's copy of the Act has a marginal query about the last two items: 'What are these? Wd they help the office'. [ABS, Adelaide 215/1924].)
88. Giblin to CS (Wickens), 18 March 1927 (copy), and subsequent exchanges with the Public Service Board, AA A571, 32/2041. K. A. Archer, Commonwealth Statistician 1962-70, was paid personally by Giblin for his first nine months in the Hobart office until his appointment was formalised retrospectively when Giblin's friend, Lyons, became Premier in 1924. As the other juniors were 'town-bred', Archer's farming background led to his assignment to understudy the 63 year old J. R. Green on 'stock and crop' statistics (NLA, TRC C12/38). J. P. O'Neill was another Commonwealth Statistician to benefit from Giblin's guidance and support in obtaining a free place for university study in 1929 (ABS 30/57). In his enthusiasm for youth, Giblin apparently did not sense the frustration of his principal assistant. In a protest over his treatment since 1924, the 64 year old W. T. Murphy obliquely indicated a suspicion that neither merit nor age was the crucial factor. 'I understand that the laws of Italy now provide that no member of the Public Service shall be at the same time a member of any Secret Society. Such a law cannot possibly be an injustice to any one; and would, undoubtedly, have the effect of considerable saving to the taxpayers, of greater efficiency in the Service, and of inspiring confidence in the administration.' (W. T. Murphy to Chairman, Public Service Board of Commissioners, 6 Jan. 1929, ABS 30/57.)
89. CS (Wickens) to Tasmanian Government Statistician, 10 April 1924, ABS 08/140; CS (Wickens) to Assistant Secretary, Department of Home Affairs, 24 Oct. 1924; J. Stonham et al to CS (Wickens) 16 Sept. 1929, and subsequent correspondence between CS, PSB, and Home Affairs Department, AA A571, 32/2030. In the harsh economic climate of 1929-30, Wickens' advocacy on behalf of his staff, and his request for the creation of a position of Assistant Statistician fell on deaf ears.
90. CS (Wickens) to Secretary, Department of Home Affairs, 22 Jan. 1930, AA A571, 32/2030.
91. H.A. Smith, 'Report upon Scheme for Unification of Australian Statistics . . . 11 May 1923, ABS (Melbourne).
92. The conferences attended by Wickens were held in Adelaide (1924), Sydney (1925), Perth (1926), Hobart (1928), Canberra (1929), and Brisbane (1930). The agenda usually embraced population and vital statistics, finance, transport and communication, trade and commerce, local government, production, labour and industrial, with production statistics usually a major item. The 1924 conference, for example was urged by the Western Australian Statist to review various categories affected by the rapid growth of the automobile industry. 'The fact that motor chassis manufacture has not yet been undertaken Australia does not preclude the intelligent anticipation of the likelihood of such a possibility.' (Brief notes for CS [Aug. 1924], Treasury 69/1975.)
93. The Victorian deliberations are documented in ABS (Melbourne) files. The history of unification effort from 1906 was summarised in CS (Wickens) to Secretary, Department of Home Affairs, 8 Feb. 1930, AA A571, 32/2037; cf 'Uniformity in Statistics', paper for meeting of Commonwealth and State Ministers, 20 Feb. 1930, AA A571, 30/1011.
94. Wickens had speculated hopefully on 29 March 1928 that it was 'unlikely that a move will

take place at midwinter'.

(AA A571, 32/1587 Pt 1); for the proposed move to the Hotel Acton see ABS 30/328.

95. CS (Wickens) to C. Laverty, 23 June 1928, ABS 45/1486. The Public Service Board had decided February 1924 that machine tabulation 'is routine work and particularly suitable for the employment female officers of the Fourth Division with duties embracing coding statistical information, punchi cards according to the code, and general routine work of machine tabulation . . . in addition to economy which will be thus effected, it may be anticipated that there will be a gain in efficiency by establishment of a nucleus of trained staff . . . (AA A571, 32/2030.)
96. CS (Wickens) to Secretary, Home and Territories Department, 29 March 1928, 8 Oct. 1929; Memoranda by Wickens 4 Nov., 2 and 7 Dec. 1929; CS (Wickens) to Minister for Home Affairs, 6 Feb. 1930; CS (Wickens) to Secretary, Department of Home Affairs, 27 June 1930, AA A571, 32/1587 Pt 1. For political background see John Robertson, **J. H. Scullin**, A Political Biography, Perth, 1974, chapters 11-22. For E. G. Theodore's interest in the income question and Wickens' explanation see CS (Wickens) Secretary, Department of Home Affairs, 14 March 1930; H. J. Sheehan (Assistant Secretary, Treasury to Minister for Home Affairs, 21 March 1930, AA A571, 32/2046. As the income question was recommended by the statisticians' conference in September 1929 it could not have been, as has been accepted on the authority of the Statistician's Report on the 1933 Census, 'actuated in part . . . by special interest in the effects upon the pattern of distribution produced by three years of severe depression' (Adrian, 'Trends in Social Statistics . . . p. 14; Ian McLean and Sue Richardson, 'More or Less Equal? Australian Income Distribution Since 1933', **The Economic Record**, vol. 62, March 1986, p. 7. On orphans and fertility see **Report, Resolutions, and Agenda of the Conference of Statisticians Australia** . . . Canberra, 9 to 13 September 1929, Canberra, 1929, pp.4-5; Adrian, 'Trends in Social Statistics . . .', pp. 12-13. Occupational data are discussed in L. F. Giblin, 'The Census and Occupation Trends', G. V. Portus (ed.), **What the Census Reveals, Adelaide**, 1936, pp. 55-80; Roland Wilson **Census of the Commonwealth wealth of Australia 30th June 1933, Statistician's Report**, Canberra, 1940, chapter xxii-xxiv. Wilson does not appear to have pursued Giblin's vision of fertility and reproduction rates occupation.
97. Parkhill's Cabinet submission, 28 Jan. 1932, AA A571, 32/1587 Pt 1; **Report, Resolutions, and Agenda of the Conference of Statisticians of Australia** . . . Sydney, 10 to 17 August, 1932, Sydney, 1932, p.10 Acting CS (Giblin) to Secretary Treasury, 30 Sept. 1932, AA A571, 1932/1587 Pt 2. Premier of New South Wales to Prime Minister, 9 March 1932, AA A571, 32/1781; **Report, Resolutions, and Agenda of the Conference of Statisticians of Australia** . . . Brisbane, 22 to 27 May, 1930, Brisbane, 1930, p. 8. The Bureau's declining public commitment to its trade union figures as an indicator of unemployment charted in Forster, 'Australian Unemployment . . . pp. 433-6. Cf. J. L. K. Gifford, **Economic; Statistics for Australian Arbitration Courts**, Explanation of their Uses, Criticisms of Existing Statist and Suggestions for their Improvement, Melbourne, 1928, ch. II.
98. CS (Wickens) to Secretary, Department of Home and Territories, 29 March 1928; Bean to Perkins (Treasury), 26 April 1933, AA A571, 32/1587 Pts 1-3.
99. For lobbying by the R.S.S I L. and the government's response see AA A461, L320/1/1 and M320/1/1 Preference was given to returned soldiers as sub-enumerators, and only ex-soldiers were eligible for appointment to the Canberra temporary clerical staff. The Statistician instructed the Deputy Supervisor of Census to select suitable unemployed persons as collectors. These positions were exempted by order-in-council from the returned soldiers' preference section of the Public Service Act but the Public Service Commissioners still supported the general policy of preference.
100. ABS 27/646.
101. On Wickens' health and activities in 1927-31, see ABS W165, 27/646 (trade statistics), 24/873 (world agricultural census), **Royal Commission on the Constitution**, Vol. 1, Minutes of Evidence, Pt III, Melbourne, 1927, pp. 378-81 29/429 (social insurance), T. H.

- Kewley, **Social Security in Australia 1900-72**, Sydney, 1974, pp. 143-54. In his first discussion on tariffs with Wickens, Giblin and Dyason, Bruce was relieved to discover 'they were equally fogged with myself as to what had actually been the effect from the economic standpoint of Australia's policy of protection', (Bruce to F. L. McDougall 29 Sept. 1927, quoted in W. H. Richmond, 'S. M. Bruce and Australian Economic Policy 1923-29 **Australian Economic History Review**, vol. XXIII, no. 2, Sept. 1983, p. 251).
102. CS (Wickens) to Secretary, Department of Home Affairs, 16 Dec. 1929, AA A571, 32/2030; Minister for Home Affairs to Minister for Defence, 4 Nov. 1931, AA A571, 34/2633; CPD, CXX, Senate, 20 March 1929, pp. 1495-1518;
J. Buckley-Moran, 'Australian Science and Industry Between the Wars', **Prometheus**, vol. 5, no. 1, June 1987, pp. 12-13; Acting CS (Giblin) to Secretary, Department of Home Affairs, 24 April 1931, ABS W165; Neville Cain, 'Lyndhurst Falkiner Giblin', in Bede Nairn and Geoffrey Serle (eds), **Australian Dictionary of Biography**, vol. 8: 1891-1939, Cl-Gib, Melbourne, 1981, pp. 646-8.
 103. Wickens to Giblin, (copy), 4 Feb. 1924, ABS 08/140; Notes on agenda, Conference of Statisticians, Perth, Aug. 1926, Treasury 69/1974; Wickens, 'Some of the Problems of Index Numbers', typescript [1929], ABS 19/2; CS (Wickens) to B. Latham (Commonwealth Bank), 18 and 28 Nov. 1930, ABS 30/1357; Neville Cain, 'The Economists and Controversy over Policy in 1930-31', Economic History Joint Seminar paper, A.N.U. 1 May 1987, pp. 5-6, 17-18.
 104. Stonham to Secretary to the Treasury, 3 May 1933, (copy), ABS 57/1530. In 1930 Wickens had crossed swords publicly with Giblin over Tasmania's claim for additional financial allocations from the Commonwealth.
 105. An address by Sir Roland Wilson . . . p. 3; Giblin to (E. M. Giblin), 8 Feb. 1932, L. F. Giblin MSS, NLA 366, Ser. 5, 1-88-CS, (McPhee) to Secretary to the Treasury, 12 April 1933, AA A571, 33/1625. The joint Parliamentary Committee on Public Accounts had recommended in its **Report on the General Question of Tasmania's Disabilities**, the creation of a permanent body to study federal-state financial relations with 'a qualified economist' under the control of the Commonwealth Statistician.
 106. C. B. Schedvin, **Australia and the Great Depression**, Sydney, 1970, ch. IV; Neville Cain, 'Economics Between the Wars: A Tall Poppy as Seedling', **Australian Cultural Of History** no. 3, 1984, pp. 74-86; ABS 39/1/1 and 30/1357 for the Queensland Bureau of Economics and Statistics and the Commonwealth Bank. The Queensland Bureau of Economics and Statistics was reconstituted as a Bureau of Industry in late 1932, shorn of one of its original functions of assisting the Industrial Court (B. H. Molesworth, 'The Bureau of Industry in Queensland', **The Economic Record**, vol. ix, no. 16, June 1933, pp. 105-8). For Development and Migration Commission and Royal Commission on National Insurance interest in unemployment, see Colin Forster, 'An Economic Consequence of Mr Justice Higgins', **Australian Economic history Review**, vol. XXV, no. 2, Sept. 1985, pp. 103-9.
 107. Casey to Sheehan, 26 Jan. 1935, (copy), Lord Casey MSS, AA CP503/1 Bundle 3; **The Argus**, 26 Feb. 1936.
 108. D. B. Copland. 'The Economic Society - Its Origin and Constitution', **The Economic Record**, vol. 1, no. 1, Nov. 1925, p. 140; Roland Wilson, 'Australian Capital Imports, 187 1-1930', *ibid.*, vol. vii, no. 12, May 1931, p. 53 fn 1; 'Australian Monetary Policy Reviewed', *ibid.*, vol. vii, no. 13, Nov. 1931, pp. 195-215.
 109. E. K. Heath and J. Polglaze, 'A Business Index for Australia', *The Economic Record*, vol. ix, no. 17, Dec. 1933, p. 215;
F. R. E. Mauldon, **The Use and Abuse of Statistics**, With Special Reference to Australian Economic Statistics, Melbourne, 1933, pp. 21-2. Mauldon, by then Professor of Economics in Tasmania, was appointed Economist and Research Director in the Bureau in 1939 but left two years later. Other economists calling for new approaches to statistics included E. R. Walker and G. L. Wood. **The Economic Record**, vol. XII, no. 2, Dec. 1936, pp. 290-1. For contemporary developments in the United States, see Wilson Gee (ed.), *Research in the Social Sciences*, Its Fundamental Methods and Objectives, New York, 1929; A. Ross

Eckler, **The Bureau of the Census**, New York, 1972; Joseph W. Duncan and William C. Shelton, **Revolution in United States Government Statistics 1926-1976**, U.S. Department of Commerce, Washington, 1978.

110. **The Economic Record**, vol. ix, no. 17, Dec. 1933, p. 297; **Report, Agenda and Resolutions of the Conference of Statisticians of Australia** . . . Canberra, 6 to 8 March 1935, Canberra, 1935; MePhee to H. Leak, 15 Jan. 1935, ABS 34/1195; Wilson to Secretary, Treasury, 2 April 1935, Sir Roland Wilson MSS (ABS); Interview, Sir Roland Wilson, NLA TRC 1612/1. At the 1936 statisticians' conference agreement was reached on extensive revision of the 'C' Series Index and the appointment of six field officers to collect and check retail price and rent data. (**Report and Resolutions of the Conference of Statisticians of Australia** . . . Canberra, 16 April to 22 April, 1936, Canberra, 1936, pp. 4-8; correspondence with Premiers June-July 1936, AA A461, C320/1/2).
111. An address by Sir Roland Wilson . . . pp. 5-6; Robert S. Parker, **Public Service Recruitment in Australia**, Melbourne, 1942, pp. 109-10; Wilson Interview . . . NLA TRC 1612/1. Under the previous librarian, Wilson recalled, 'if you wanted a book . . . you had to tell him what size it was, how thick, what colour the binding was, then he'd bring you three or four to pick from!'
112. Wilson to Casey, 6 Dec. 1935, (copy); Casey to Wilson, 13 Aug. 1935, Wilson MSS (ABS). Wilson's promotion to Economic Adviser was accelerated by Casey's intervention on learning that Wilson was contemplating an invitation to become Professor of Economics at the University of Tasmania. (W. J. Hudson, **Casey**, Melbourne 1986, p. 99.) Schedvin
113. (**Australia and the Great Depression**, p. 316) dismisses Casey as energetic but uninspired in his successive Treasury positions; but see for example Casey's analysis of Australia's balance of payments position utilising Wilson's figures in a letter to S. M. Bruce, 19 Oct. 1936 (AAA1963/391/ [50]).
114. W. V. Lancaster (Treasury) to Secretary, Prime Minister's Department, 10 Feb. 1937, AA A461, B320/ 1/3. The conclusions of a secret conclave of economists and bank officials on the causes, prospects, and policies for economic recovery were conveyed by Giblin to Wilson on 14 Oct. 1935 (Wilson MSS, ABS).
115. Acting CS (Giblin) to Secretary, Department of Home Affairs, 20 Nov. 1931, (copy), Wilson MSS (ABS); Wilson, 'Price, Quantities and Values', 24 Sept. 1937, H. P. Brown MSS, 36, H. P. Brown Library, Australian National University.
116. The next general publication issued by the Bureau, the Digest of Current Economic Statistics, did not appear until 22 years later. (W.H.D. Morris, 'Australian Statistics and Commonwealth Bureau of Census and Statistics Publications', Legislative Research Service, Commonwealth Parliamentary Library, [Feb. 1970]. p. 23.)
117. **Labour Report**, 1943, No. 33, p. 34.
118. Roland Wilson, 'The Economic Implications of Planning', in W.G.K. Duncan (ed.), **National Economic Planning**, Sydney, 1934, pp. 74-5; Greg Whitwell, 'The Social Philosophy of the F & E Economists', **Australian Economic History Review**, vol. xxv, no. 1. March 1985 pp. 2-6.
119. H.C. Coombs, **Trial Balance: Issues of My Working Life**, Melbourne, 1983, p. 3. Giblin had been told by Sir Otto Niemeyer of the Bank of England on 19 Oct. 1932 that 'Keynes (of all people) has recently been saying that economists are apt to reason far too much from statistics, to which they attach a degree of dogmatic verity which is hardly deserved by the closeness with which abstract and general statistics fit the varying and individual manifestations of actual business', (Giblin MSS, NLA 366, Ser. 5, 1-88). R I. Downing saw Clark's work as part of an older tradition rather than as the precursor of the social accounts' approach. ('Current Problems of the Australian Economy', in **Business and Economic Policy**. Third Summer School of Business Administration 1958, University of Adelaide. Adelaide, 1958, pp.5-6.)
120. Paul Hasluck, **The Government and the People 1939-1941**, Canberra 1965 (1st edn. 1952), pp. 130-1.
121. Wilson, 'The Economic Implications of Planning', pp. 68-9; Wilson, A Note on Economic

- Policy and Organization for War, 12 Sept. 1939, AA A571, 39/3251; Hasluck, op. cit., pp. 451-3; S.J. Butlin, **War Economy 1939-1942**, Canberra 1961.
122. (1st edn. 1955), pp. 21-3; Rodney Maddock and Janet Penny, Economists at War: The Financial and Economic Committee 1939-44', **Australian Economic History Review** vol. xxiii, no. 1, March 1983, pp. 28-47.
 123. R.G. Menzies to A. Mair, 21 Nov. 1940, (copy), ABS 57/1530.
 124. Colin Clark to Cameron Hazlehurst, 4 Mar. 1987; Colin Clark and J.G. Crawford, **The National Income of Australia**, Sydney, 1938, pp. 14-18; A/g CS to Secretary, Treasury, 8 April 1942, ABS 35/5 (J.C. Stephen file). For the Bureau's collaboration with the military authorities see ABS 62/1983, 67/5938, and AA CP200, Box 3. On censorship, ABS 62/1984 reveals Carver's differences with the navy and Defence department.
 125. Secretary to Treasury to Chairman, Public Service Board 24 July 1943, and reply 27 July 1943, ABS 35/5. Stephen had been flown to Britain in 1942 to study production statistics methods. (E.K. Foreman, 'State Government Statistical Requirements - Historical Perspective', typescript, 30 May 1980, ABS Library.) Another recruit in 1943 was P.H. Karmel. 'He has performed several pieces of original statistical research of a high order,' Carver told the Secretary to the Treasury on 28 Sept. 1944, 'and 24 shows real capacity for the work'. (ABS 35/S.)
 126. ABS 67/5938; S.J. Butlin, **War Economy 1939-1942**, Canberra, 1955, p. 354. Compare U.S. experience in Arynness Joy Wickens, 'Statistics and the Public Interest', **Journal of the American Statistical Association**, vol 48, no. 261, March 1983, p.3.
 127. H.C. Coombs, 'The Economic Aftermath of War', in D.A.S. Campbell (ed.), **Post-War Reconstruction in Australia Sydney**, 1944, p.85.
 128. Coombs, **Trial Balance**, p. 51; Selwyn Cornish, **Full Employment in Australia: The Genesis of a White Paper**, Research Paper in Economic History, No. 1, 1981, Department of Economic History, Faculty of Economics, Australian National University, pp. 78-9; Carver to H.C. Green, 1 Nov. 1944, ABS 67/5938. On the emerging post-war agenda, see Robert Watts, **The Foundations of the National Welfare State**, Sydney, 1987.
 129. Director-General, Post-War Reconstruction to A/g CS (Carver), 30 Oct. 1945; 31 Oct., 5/6, 7 Nov. 1945, ABS 53/682.
 130. A/g CS (Carver), to Secretary, Treasury, 5 Dec. 1945, ABS 45/79; **Report and Resolutions of the Thirteenth Conference of Statisticians of Australia** . . . 19 November to 23 November, 1945, Canberra, 1945, pp. 11-12, 4; **Report and Resolutions of the Fifteenth Conference of Statisticians** . . . 31 October to 4 November, 1949, Canberra, 1949, p. 2. The importance of professional judgment in forecasting was implicitly acknowledged in a report by the Department of Post-War Reconstruction for the I.L.O. in 1948: 'The general method is to study critically the trend in individual statistical series and to use general impressions combined with historical precedents in order to assess the imminence of any downward tendency in effective demand'. (United Nations, Department of Economic Affairs, **The Maintenance of Full Employment** . . . U.N., New York, 1949, Appendix: No. 3 Reply from Australia, p 77.)
 131. ABS 53/682 covers public finance correspondence and reports 1946 to 1956. On the 1954-55 roads expenditure Solomon revealed 'an error of £10,000,000' in the old system figures.
 132. Prime Minister to Premier, N.S.W., 21 Nov. 1940, (copy), ABS 57/1 530.
 133. Prime Minister to Premier, N.S.W., 2 Feb. 1948, 27 June 1949; Premier, N.S.W. to Prime Minister, 13 Feb. 1948, 15 July 1949, (copies), ABS 57/1530.
 134. Secretary, Treasury to Treasurer, 20 July 1951, (copy), ABS 57/1530. Curiously, Carver's appointment did not make him either an officer of the Public Service or of the Parliament. (Minute by R. Whalen, 15 Aug. 1958, ABS 57/1530.) Early in 1971 it was realised that there was no legislative basis on which an 'Acting Commonwealth Statistician' could be appointed when the office of Commonwealth Statistician was vacant. Carver therefore could not validly have been 'Acting Commonwealth Statistician' between 1951 and 1957

although he was properly empowered to perform the duties of the Statistician. The similar situation which occurred after Archer's retirement was expounded in a memorandum from E. Smith (Attorney-General's Department) to Secretary, Treasury, 25 Feb. 1971, ABS 57/1530.

135. P.C. Spender. 'Proposed Census of 1941', Cabinet Paper, 11 April 1940, AA A461, N 320/1/1; 'Proposals for Effecting Economic Operation Bureau Section 1939-45 War', ABS 62/1982; Clark to Carver 14 May 1945: Carver to Clark 18 May 1945; Director-General, Post War Reconstruction to Minister, 19 Oct. 1945; A/g CS (Carver) to A.P. Elkin, 11 Dec. 1945, ABS 45/79. The refusal of rationing authorities to withhold ration books from applicants who failed to produce occupational survey cards had undermined the comprehensiveness of the occupational survey. (ABS CR8.)
136. For details of the professional discussions on the 1947 Census, including the decision to drop questions on 'sickness or infirmity' and 'education' see ABS (Treasury) 62/2055, 60/1404, and J.B. Chifley, 'Proposed Census 1947', draft Cabinet submission, 1 Feb. 1946, ABS 45/79. Cabinet rejected the option of deleting all specified categories of census questions from the Act and providing that the contents of the census schedule should be prescribed by regulation. This approach was eventually adopted in 1979. For R.S.L. urging of a census of 'alien immigrants' and queries from the Jewish Council to Combat Fascism and Anti-Semitism about the concept of 'race' embodied in the census schedule see AA A461, p 320/1/1.
137. CS (Wilson) to Treasurer, 21 June 1950, ABS (Treasury) 62/2055.
138. CS (Carver) to Secretary, Treasury enclosing 'Date of Next Census', draft Cabinet submission, 20 April 1959, ABS 59/694. With Treasurer Harold Holt's encouragement the Bureau successfully resisted Cabinet pressure to bring forward the 1961 Census so as to facilitate an electoral redistribution before the next Commonwealth election. (J.F. Nimmo to Secretary, Treasury and CS, 28 May 1959, ABS 59/ 694.) For 1970s see Brian Doyle, 'The Politics of Census Taking', Working Paper No. C2, 1981 Census of Population and Housing, Development Programme, ABS, Canberra, [1979]. By 1973 senior Bureau officers were unconvinced about legislating for quinquennial censuses. 'I wonder about the wisdom of quinquennial Censuses or even the necessity. The decision to do the 1966 one related to Commonwealth Grants & Queensland's population. Our part in the Grants is peculiar. I would rather use the resources on filling up some gaps.' (Minute by C.S. [O'Neill] on K.S. Watson to J.G. Miller, 9 Jan. 1973, ABS 70/2447.)
139. Memorandum for Secretary, Treasury: draft amendments, Cabinet submission, and associated documents, May-June 1949, ABS (Treasury) 60/1404; S. Horn to D. Trewin, 'History of Legislation', 7 Nov. 1983, ABS. Horn noted that the considerable importance which the changes represented in 'balance of authority' for collecting statistics was 'downplayed in favour of efficiency arguments' in the Cabinet submission. The extension of confidentiality to voluntary returns was made discretionary thirty years later.
140. Michael Howard, **The Growth in the Domestic Economic and Social Role of the Commonwealth Government in Australia, from the late 1930s to the early Post-war Period: Some Aspects**, Ph. D. thesis, University of Sydney, 1978. Sir Claus Moser, former head of the British Government Statistical Service, noted a hardening of boundaries between economists and statisticians in the mid-1950s. ('Statistics and Public Policy', **Journal of the Royal Statistical Society**, A, vol. 143, 1980, Pt 1, p. 23; cf R. Petridis, 'Australia: Economists in a federal system', in W.A. Coats (ed.), **Economists in Government: An international comparative study**, Durham, N.C., 1981, pp. 71-3); Greg Whitwell, **The Treasury Line**, Sydney, 1986, ch. 1.
141. Foreman, 'State Government Statistical Requirements Carver to A.J. Reid, 10 Sept. 1953, (copy), Sir Stanley Carver MSS, ABS; Archer interview, NLA TRC 12/38.
142. Brown to Carver, Feb. 1950, Brown MSS, 49; Brown was appointed Reader in Economic Statistics at the Australian National University in 1950 and published his criticisms in 'Australian Statistics-A Programme', **Institute of Public Affairs Review**, May-June 1952, pp. 90-6. E.K. Foreman, 'Development and Co-ordination Division - Historical Note,' 31 March 1977, ABS Library, is a valuable chronicle. Cf K.A. Archer interview, NLA TRC 12/38;

- Dr F. B. Homer interview, NLA TRC 1594/1; J.P. O'Neill interview, NLA TRC 1613/1; B.D. Haig and S.S. McBurney, **The Interpretation of National Income Estimates**, Canberra, 1968. On the census of retail establishments see 'Census of Distribution in Australia', **Papers Presented at the Conference of British Commonwealth Statisticians 1951**. . . Canberra, [1951]. pp. 111-13. On challenges to legality of sampling, see 'Proposals for Revision of the Census and Statistics Act'. March 1967, ABS 64/1537; Secretary, Attorney-General's Department (K.H. Bailey), memorandum for A/g CS, 8 Oct. 1954, ABS 70/2447. Nearly two years after a Bureau officer had first raised the matter, a judge of the N.S.W. Supreme Court, whose Wahroonga home was in the sample for the quarterly population survey in May 1964, prompted urgent review (and an amendment to the Census and Statistics Act) by advising a senior compiler that in his opinion the act did not authorise the 'statistician to obtain information by interview at private dwellings. (Dep. CS [N.S.W.] to CS, 21 May 1964. and minute, O'Neill to AW. Mumme 27 May 1964, ABS 64/1537; Mumme to I.G. Jones 21 Nov. 1963 and minute 12 June 1962. ABS 70/2447.)
143. Archer interview, NLA TRC 12/38; unsigned and undated memorandum, [April 1969], ABS 71/3155 Pt 1 The Dominion Bureau of Statistics in Canada had an IBM 705 Model III operational from 1961. The U.S. Bureau of the Census had UNIVAC 1 in service in 1951 but card-to-tape converters were not satisfactory until 1953, and a 'high speed' printer (120 character lines at 600 lines per minute) was not available until 1955. (Marjorie Tucker, 'Recent Developments in the Work of the Dominion Bureau of Statistics **Canadian Journal of Economics and Political Science**, vol. xxv, no. 4, Nov. 1959, p. 501;) Duncan and Shelton, **Revolution in United States Government Statistics** . . . , pp. 126-8.) Between 1964 and 1971 a network of eleven medium to large scale and four small scale computers costing \$12m had placed the Bureau's mechanical tabulation equipment and associated electronic calculators. Over 800 staff were employed in a computer service centre. (F.N. Bennett, 'Computers and the User of Australian Economic Statistics', paper presented to Section 24, ANZAAS Congress, May 1971; 'Automating Australian Statistics', symposium paper, Statistical Society of Australia, N.S.W. Branch, 24/25 Aug. 1972.)
 144. A.W. Mumme, 'A Case for Functional Specialisation in the Bureau of Census and Statistics', Nov. 1970; P.A.A Kaufmann, 'Towards a Socio-Demographic Statistics Organisation', 1 Feb. 1972, ABS Library.
 145. Extended scope of duties is outlined in a series of submissions to the Public Service Board in 1974 (ABS, Adelaide Z/402/2 Pt III).
 146. A/g CS (O'Neill), 'Work Programme and Staff Requirements 1970-72', 9 June 1970, ABS 70/2080; B.D Haig, 'Indexes of Australian Factory Production, 1949-50 to 1962-63', **The Economic Record**, vol. 41 no. 95, Sept. 1965, pp. 451-2.
 147. Premier, Queensland (Gair) to Prime Minister (Menzies), 16 Dec. 1953; Treasurer (A.W. Fadden), Note for file, 16 Sept. 1957, AA A571, 61/1058.
 148. Carver to Wallace Wurth, 6 Aug. 1954; to A.W. Bowden, 10 Aug. 1954; to F.W. Sayer 15 Sept. 1954; to L. L. Chapman, 6 Oct 1954; to SA. Taylor, 20 Jan. 1955, to Wurth, 22 Feb. 1955, Carver MSS, ABS.
 149. Fadden Statistics (Arrangements with States) Bill', Cabinet submission, annexure A, 1 Feb. 1956, AA A571, 563/2351 Pt I.
 150. AA A571 53/2351.
 151. A/g CS (Carver) to Secretary, Treasury, 25 March 1954, ABS 57/1530.
 - 152.

